Some Theoretical and Empirical Aspects of the Process of Economic Development in China since the Reforms of Deng Xiaoping

THESIS

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To Prof Dr. Heinrich Bortis,

who supported and encouraged me so much.

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Abbreviations

APEC	Asia-Pacific Economic Cooperation
CPI	Consumer Price Index
EIU	Economist Intelligence Unit
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
ILO	International Labour Organization
MIT	Massachusetts Institute of Technology
NIC	Newly Industrializing Countries
NIE	Newly Industrialized Economies
OASDI	Old-Age, Survivors, and Disability Insurance
OECD	Organization for Economic Co-operation and Development
PAYGO	Pay-As-You-Go
PPP	Purchasing Power Parity
PRC	People's Republic of China
R&D	Research and Development
RMB	Renminbi (the currency of the People's Republic of China)
SOE	State Owned Enterprises
TFP	Total Factor Productivity
TVE	Township and Village Enterprise
USTR	United States Trade Representative
WTO	World Trade Organization

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Symbols

A	labour productivity
$A(t)$	function of time that allows for neutral technological change
C	consumption
C_{food}	expenditure on food
$\sum C$	total consumption expenditure
E	C+I+G=aggregate demand
F	function of technology
G	normal government expenditures
I	investment
Int	intermediate product
I_t	gross investment undertaken in period t
$\bar{I}$	$sY = sQ$=autonomous investment
K	total capital input
K_t	capital stock in time-period t
L	labour input
M	normal imports
N	productive workers
P	profit
P_x	price of export of a country
Q	national product
Q^*	trend or long-period gross domestic product
Q_c	capacity output which would obtain if the presently existing capital stock K were normally utilized
Q_e^*	trend output governed by the external employment mechanism
Q_G	gross income (or gross product)
Q_i^*	trend output governed by the internal employment mechanism
Q_N	net income (or net product)
R	rent
S	gross savings

S_p	saving out of profits
S_w	saving out of wages
T	gross taxes
W	wage costs of the productive workers
$X - M$	net exports
X	normal exports
Y	output or income
a	autonomous consumption spending
b	b_1+b_2=import coefficient
b_1	fraction of output required to buy the imports necessary in the social process of production and
b_1	necessary import coefficient
b_2	fraction of income spent upon non-necessary goods associated with consumption
b_2	non-necessary import coefficient
c	consumption rate
c	average propensity to consume
cN	value of the goods consumed (used up) per worker in the production process
c_s	long-period consumption coefficient
d	depreciation rate of the capital
d^*	trend replacement rate
e	foreign exchange rate
eP_m	price of import of a country
$f(K,L)$	function of capital and labour
g^*	s/v^*=Harrod's warranted rate of growth
g^*	trend growth rate (effective demand)
g_a	$\dot{A}/A$=growth rate of technology
g_k	$\dot{K}/K$ =growth rate of capital stock
g_l	$\dot{L}/L$=growth rates of labour
g_q	$\dot{Q}/Q$=growth rate of output
$(g+d)v$	gross-investment/output ratio
i	interest rate
k	fixed capital endowment per productive worker

$1-(1/k)$	share of property income (k is here the realized mark-up)
k^*	target trend mark-up (or distribution)
k_e	average realized gross profit (mark-up) over e time periods
m	raw material consumption per worker
p_m	imports price in foreign currency
q	reaction parameter linking deviations of realized profits from target profits to actually undertaken gross investment
r	profit rate
s	savings rate
s_p	marginal propensity to save from profits
s_s	long-period saving propensity
s_w	marginal propensity to save from wages
$1/(s_p - s_w)$	the coefficient of sensitivity of income distribution
t_s	long period tax coefficient
v	K/Q=capital-output ratio
v^*	value of capital required for the production of one additional unit of output (capital coefficient)
$1/v^*$	technically given output/capital ratio
w	wage rate of the productive workers
w_k	$\frac{\partial Q}{\partial K}\frac{K}{Q}$ =production elasticity of capital
w_l	$\frac{\partial Q}{\partial L}\frac{L}{Q}$ = production elasticity of labour
z_s	$1 - c_s = s_s + t_s$ =leakage coefficient, indicates the fraction of the surplus over ordinary wages which is not consumed, the fraction consumed being c_s
$z_s[1 - (1 / k)]$	leakage out of domestic income which is negatively associated with output and employment
δ	depreciation rate of capital
π	terms of trade

1. Introduction

China is one of the world's greatest development experiences today. Economic reform and open-door policy over the last 30 years have transformed the world's most populous nation into a most influential major economic power with an average annual GDP growth rate above 10 percent. Its per capita income, with an average annual growth rate of more than 8 percent, has increased by more than five-fold over the last 20 years. It contributed dramatically to the decline in poverty in China. When measured on a purchasing power parity (PPP) basis, China has contributed about twice as much to world GDP growth as the United States since 2000 (cf. Roach, 2009a, pp. 169-170; Asian Development Bank, 2007). According to the statistics of 2006, China was the world's second largest exporter, the third largest importer, and second to the United States in world oil consumption, third in imports of oil, following the US and Japan (cf. Iley, Lewis, 2007, p. 204). Very recently China overtook Germany as the world's top exporter (cf. New York Times, 2010).

However, the rapid growth of China has been accompanied by growing challenges. To analyse the present challenges of China's economic development is the motivation of this research. Two of the most essential challenges in the economic area are the increasing wealth disparity, especially the inequality of income distribution, and the trade conflicts with the industrialized countries, which are supposed to hinder the future development of China. These two challenges are seemingly not related to each other at first sight, but they have in fact the same origin in the export-led growth mode of China over the last 30 years. Whether China can sustain its development in the future depends principally on whether it can strike the root cause of its challenges successfully.

The assessment of the achievements and major challenges, the study of their causes and effects as well as the suggested solutions are the main focus of this research. China's growth achievement will be briefly introduced and assessed, but it is not the focal point. In this investigation the author focuses on the challenges and comes to the conclusion that the top priorities for China's policy makers are to manage the inequality of income distribution and the trade relations with the West. The former leads to a decrease in aggregate consumption, i.e. effective demand, and thereby a reduced level of output and employment which, in turn, leads to further decrease in consumption. Thus the economy finds itself in a vicious circle. The latter, mainly the very high growth rates of exports, has been of vital importance for China's growth till today, but since recent years, the West and China have more and more trade conflicts mainly due to the low value of the Chinese currency and the

increasing trade deficit of the West which implies job losses there. Meanwhile, the excessive dependence on exports also caused a number of problems in China, such as an inequitable income distribution, pollution, energy shortages, most importantly. In this thesis, based on theoretical and empirical considerations and on policy issues, the author attempts to provide the reasons why export-led growth mode is indeed at the origin of all the above-mentioned problems. The challenges of environment pollution, corruption, energy shortage, financial reform etc. are not focused upon in this research, because they are supposed to rank as second priorities in the economic policy making and most of them will be reduced in importance during the transition of China from an export-led economy to a domestic demand driven economy.

There are numerous discussions in economic policy-making and also in academic circles about strategy options for dealing with the current difficult economic situation and sustaining development of China. This research was prompted by some of these discussions and aims to make a contribution to the study of how the Chinese economy could extract itself from the difficult situation. In the concrete, China must promote domestic consumption through increasing the public welfare, improving the income distribution and the employment, especially in rural and low developed areas. With the initiative of 'building a harmonious society' in recent years, the Chinese government is intending to realize and defend the social fairness and justice, and create a future where people are supposed to live with each other in harmony with equality and fraternity (cf. Bo, 2006, pp. 19-20). This initiative highlights the urgency and importance of achieving a more equitable income distribution throughout the whole country.

The methods of this research are both descriptive and analytical. In analytical respect the author takes an experimental and deductive approach and relies on statistical data. The results will be generalized by modelling and analyzing the variables concerned. In a research one can not come to a proper conclusion without reliable sources of statistical data. The main statistical data in this research are quoted from worldwide officially recognized organizations, such as International Monetary Fund, World Bank, Organisation for Economic Co-operation and Development (OECD), World Trade Organization (WTO), National Bureau of Statistics of China, etc. On the other hand, inductive approach related to descriptive method will also be used to identify the scale and nature of economic problems, however, certain discussions to explore perspectives can be open-ended. Both the economic literature from the West and from China will be studied in this thesis, often representing different research results on the same topic and sometimes totally different

view points. An objective comparison of the different opinions proves to provide significant new knowledge about the growth drivers and challenges for China. Theories of growth and development will be briefly introduced and by assessing the concrete situation of China, the appropriate theory for China's future development seems to emerge, namely, the Classical-Keynesian Theory of development.

This thesis is divided into nine chapters. The first chapter is the general introduction.

Chapter 2 reviews the literature about economic growth and development. At first the neoclassical growth theory and Keynesian growth theory are studied and compared. Then a comparison is made between the economic growth and economic development. This comparison is essential for this thesis, because economic growth and economic development can be totally different. In comparison with economic growth which is often measured by GDP growth, economic development is a more complex process involving not only the rising output, but also changes in living standards, life style, policies and technologies. China has made great achievement in economic growth, but faces severe problems in economic development. Classical-Keynesian theory of development is reviewed and will be used as the conceptual basis in this thesis.

Chapter 3 assesses the major achievements of China's growth. The broad outlines of China's growth include enormous increase of output, employment, productivity, exports and incomes; unprecedented progress in poverty reduction and material well-being; and the integration of China as a major force in global markets (cf. Brandt, Rawski, 2005, p. 1).

Chapter 4 discusses the key challenges for China's economy, namely the inequality of income and wealth distribution and poverty in China and the increasing tendency of trade protectionism of the West. Issues introduced within this subject include urban–rural disparity, regional and personal variation in incomes, the gap between the coastal areas which have been strongly benefiting from the expansion of China's exports and the inland areas which are relatively underdeveloped. In addition, China's foreign exchange policy that is under great international pressure due to high trade surplus, and the anti-dumping measures launched by many western countries on account of the pressure to maintain employment levels will be discussed.

Chapter 5 identifies the drivers and assesses the consequences of the achievements and challenges. Classical-Keynesian theory is supposed to provide solution for China's problems in economic development. This chapter tries to answer the question why the achievements and challenges arise, as presented in the above two chapters. Not only statistics regarding the development but also different views of economists are introduced.

Relevant theories are reviewed and combined with the practice in China. This chapter also examines the impact that a variety of different factors have had in determining achievements and challenges and their dynamics. Factors examined include the effects of investment, consumption, export growth, income inequality and rising protectionism of the West against China's exports. The great debate on China's currency policy is also discussed. Further, this chapter discusses the economic relation between Europe and China, sums up the current problems and recommends solutions.

Chapter 6 is essential for this thesis. On the basis of the theoretical background, it explains why government expenditures are the key for China's development and demonstrates the uneven impact of economic policy on the inequality of income distribution and the imbalance in the provision of economic and social infrastructure. Keynesian theories are used to discuss the interaction between government expenditure, private consumption and employment, and explain why the domestic private consumption will play a central role in China's further development and how to make it happen.

Chapter 7 reviews at first two opposed theories on social security and discusses why a well-functioning social security system and sufficient coverage are significant for China. Then the current social security system of China is briefly presented and policy solutions are suggested. This chapter is the extended part of chapter 6, since social security is closely connected with private consumption and employment.

Chapter 8 studies the influences of the present global financial crisis on China. At first an empirical evidence is reviewed, namely the Great Depression. Then it introduces the influences of the present financial crisis on China's economic development and China's reactions, as well as the impact of China's reactions on the world economy. Finally, the Keynesian *bancor* approach is presented for the purpose of global economic integration on the basis of a new financial and economic world order.

Chapter 9 firstly summarises and concludes the thesis generally, and then attempts an outlook on the possible future development of China.

2. Theories of Economic Growth and Development

For the economists, a theory is a systematic explanation of the functioning of economic systems, of the behaviour of individuals and collectives, as well as of the influence of exogenous factors. "In its most elementary form, an economic model is a statement of relationships among economic variables" (Kindleberger, Herrick, 1977, p. 40). As a rule, theories improve our understanding of the real world and provide a conceptual basis for policy making. However, reality is so complicated that a simple model can not include all critical variables in the real world, nor can any single theory consider all factors influencing economic growth (cf. Nafziger, 2006, p. 123; Kindleberger, Herrick, 1977, p. 40). It is important that economists determine which variables are crucial and which are of secondary importance, or irrelevant. Although the mathematical models can handle a large number of variables, they have not been very successful in explaining economic development, especially in the third world, e.g. China (cf. Nafziger, 2006, p. 123). In this thesis we concentrate upon simple and robust models of the Keynesian-Ricardian type, aiming at capturing essentials and picturing how the fundamental causal forces work in principle. Statistical and historical evidence may, subsequently, be used to illustrate the principles.

2.1 Theories of Economic Growth

Economic growth is the increase in the amount of the goods and services produced by an economy. It is usually measured by changes in the Gross Domestic Product (GDP) (cf. Dolan, Frendreis, Tatalovich, 2008, p. 3).

2.1.1 Classical Growth Theories: Adam Smith and David Ricardo[1]

Jean-Baptiste Say pointed out that the investors, who have capital at their command, always weigh beforehand the advantages and disadvantages of the different modes of investment and naturally prefer, ceteris paribus, those presenting the smallest risk and the quickest return; so that hazardous and long-winded investments are not preferred (cf. Say, 1857, pp. 354-356). In other words, the expectation of profits determines the investment.

[1] The author reviewed the theories of Adam Smith and David Ricardo by means of both original literature and discussions with Prof. Heinrich Bortis of the University of Fribourg, Switzerland.

In his book *The Wealth of Nations*, Adam Smith expounded his ideology of the "invisible hand" that "the private interests and passions of individuals naturally dispose them to turn their stock towards the employments which in ordinary cases, are most advantageous to the society … Without any intervention of law, therefore, the private interests and passions of men naturally lead them to divide and distribute the stock of every society among all different employment carried on in it, as nearly as possible in the proportion which is most agreeable to the interest of the whole society" (Smith, 1864, pp. 260-261). Further, Adam Smith believed that by pursuing his own interest, an individual "frequently promotes that of the society more effectually than when he really intends to promote it" (Smith, 1864, p. 184). This means in the broader sense that the economy works like a self-regulating system, so that state intervention in the economy will hamper this natural process.

Adam Smith grouped the labourers as productive and unproductive workers. The productive workers N are employed in the production sector (e.g. agriculture, manufacturing and handicraft) and produce a revenue (profit and rent). The unproductive workers are mainly in the service sector (e.g. officials, professors, politicians, actors and servants) and are maintained by the revenue produced in production sector (cf. Smith, 1864, p. 136).

The capital consists of fixed capital and circulating capital.

Circulating capital includes:

a. Wage costs of the productive workers $W = wN$, where w is the wage rate, N is the amount of workers;
b. Raw material consumption mN, where m is the raw material consumption per worker.

Fixed capital: kN, where k is the fixed capital endowment per productive worker. The fixed capital consists of machines, tools, buildings (e.g. factories) etc. Adam Smith also seems to count the human capital and money to fixed capital (cf. Smith, 1864, p. 112-115).

Thus, the total capital is

$$K = (m + w + k)\, N. \tag{2-1}$$

The gross income (or gross product) is

$$Q_G = Q + Int \tag{2-2}$$

where Q is the national product and Int is the intermediate product.

Note the wage costs of the productive workers wN, the intermediate products Int and part of the fixed capital $dK = dkN$ will gradually expend in the production process (d is the depreciation rate of the capital).

Then the net income (or net product) is

$$Q_N = Q_G - (w + m + dk)N = Q_G - cN \qquad (2\text{-}3)$$

where cN represents the value of the goods consumed (used up) per worker in the production process. This is the productive consumption of Marx and the Classics.

Thus the net product is

$$Q_N = P + R \qquad (2\text{-}4)$$

where P is the profit and R is the rent. The net income is the sum of profits and rents (cf. Smith, 1864, pp. 136-137).

The net product corresponds to the social surplus which can be used for: 1) increasing the capital stock (net investment), 2) financing (through taxation) the political, social and cultural life (institutional superstructure); 3) luxury consumption (cf. Smith, 1864, p. 67, p. 278, pp. 385-386).

The growth model can be derived from the basic equation:

$$Q_G = A\,(k)\,N \qquad (2\text{-}5)$$

where A is labour productivity, depending on the capital endowment per worker, k. The output depends on labour productivity and on the amount of labour (cf. Hicks, 1985, p. 31). If we combine the equation (2-3) and (2-5), we get the equation of net output:

$$Q_N = Q_G - c\,N = [A\,(k) - c]\,N \qquad (2\text{-}6)$$

A certain part of the net product is saved and invested:

$$I = \Delta K = s\,[A\,(k) - c]\,N \qquad (2\text{-}7)$$

where *s* is the savings rate. Savings *determine* investment and put the economy in motion (cf. Smith, 1864, p. 118).

However, the non-saved part of net income *(1-s)[A(k) - c] N* is used for luxury consumption and for the establishment of an institutional superstructure.

Let us divide both sides of the equation by the capital stock $K = (m + w + k) N$. We get *the growth rate of the capital stock* as well as *the rate of growth of the national product, i.e. the wealth of a nation:*

$$\frac{I}{K} = \frac{\Delta K}{K} = g_K = \frac{s[A(k) - c]N}{(k + w + m)N} = \frac{s[A(k) - c]}{(k + w + m)}. \qquad (2\text{-}8)$$

On the basis of these essential elements of Adam Smith's growth model we may conclude:

- The most important element is the relationship between growth and income distribution: A lower wage rate *w* leads to a higher net product per worker: *A (k) - c* rises; at the same time the expenditure for wages is falling (*w* is falling). Both factors increase the rate of growth g_K.
- A high growth rate g_K implies extensive investments that cause an increase of capital endowment per worker (*k*). A rising *k* increases the labour productivity *A*, which in turn increases the rate of growth g_K. This leads to a cumulative process of growth.
- Finally, the growth rate of economy is higher, the larger is the fraction *s* saved out of the net income. In contrast to the Mercantilists and Keynes, saving is a virtue for Adam Smith. Hence he dislikes luxury consumption and excessive government spending. Given this, Adam Smith's growth model is entirely supply-sided. Demand factors do not play any role.

This tradition is carried on by David Ricardo. According to Ricardo's doctrine, profit finances investment because "no one accumulates but with a view to make his accumulation productive, and it is only when so employed that it operates on profits … Without a motive there could be no accumulation ... The farmer and manufacturer can no more live without profit ... Their motive for accumulation will diminish with every diminution of profit, and will cease altogether when their profits are so low as not to afford them an adequate compensation for their trouble, and the risk which they must necessarily encounter in employing their capital productively" (Ricardo, 1821a, p. 123). Therefore,

growth rate of capital stock is positively related to profit rate and negatively related to wage costs. Financed by profit, the investment is directly associated with the growth of agricultural sector and thus the national product. The agricultural sector includes also those parts of the industry and handicraft sector, which produce tools and machines for agriculture; here, the indirect employment of agriculture is active.

Ricardo's growth model is based on the following assumptions:

- The wage costs for direct and indirect labour W are equal to the capital K invested: $W = K$.
- The profits will be completely invested: $P = I$.
- The investments are equal to an expansion of the capital stock: $I = \Delta K$.

Thus, the profit rate is equal to the growth rate of the system:

$$r = P/W = P/K = I/K = \Delta K/K = g_K. \qquad (2\text{-}9)$$

Profits finance investments, and the growth rate of the capital stock determines the growth rate of the national product. The relationship between profit rate and growth rate is a fundamental feature of classical political economy.

David Ricardo expressed Say's Law in a different way: excessive saving would not reduce demand for home products, a general overproduction is impossible, in other words, each supply creates its own demand; money serves only as an instrument to facilitate production and exchange, but doesn't have any influence on the real economic sector, that is, money will not be held, because holding money doesn't yield profits. *Hence income will be either consumed or saved and invested*. Both Say and Ricardo admitted that innovations can destroy jobs in the short run, whereas Say pointed out that the new technology created jobs in the long run (cf. Kates, 2003, p. 40) and Ricardo argued that "the discovery and use of machinery ... will be injurious to the labouring class, as some of their number will be thrown out of employment, and population will become redundant, compared with the funds which are to employ it" (Ricardo, 1821a, p. 472), but Ricardo also believed that in the long run technical progress would eventually set the economy on a course of expansion (cf. Akhtar, 1973, p. 252). The adaptation of the products to the consumption preference is more important for the economic growth than enough production in each sector in general. "In all cases a good distribution of the produce, and an adaptation of it to the wants and tastes of society are of the utmost importance to the briskness of the trade and the accumulation of capital. The want of this is in my opinion the only cause of the stagnation

which commerce at different times experiences. It may all be traced to miscalculation, and the production of a commodity which is not wanted instead of one which is wanted" (Ricardo, 1951, p. 415).

In the view of Ricardo, wages are regulated by the increase of capital. "In the natural advance of society, the wages of labour will have a tendency to fall, as far as they are regulated by supply and demand; for the supply of labourers will continue to increase at the same rate, whilst the demand for them will increase at a slower rate [and such a tendency continues] until the capital became stationary, when wages also would become stationary, and be only sufficient to keep up the numbers of the actual population" (Ricardo, 1821a, pp. 95-96). The labour growth rate is taken to be constant in Ricardo's model. However, there is, besides the market price for labour, also a "natural price of labour [the natural wage rate] which is necessary to enable the labourers, one with another, to subsist and to perpetuate their race, without either increase or diminution. [The natural price of labour] depends on the price of the food, necessaries, and conveniences required for the support of the labourer and his family" (Ricardo 1821a, p. 91). The natural price of labour is a kind of institutionally governed equilibrium price depending upon socio-economic and, eventually, political forces.

As entrepreneurs invest their profits in the production sector, the national product, population and labour supply increase. More and more labours will be employed in agricultural sector in order to feed the rising population. Consequently, more and more bad land has to be cultivated. Thus marginal and average earnings are falling off until the so-called stationary state is reached. "In a stationary state of society … there is neither increased nor diminished facility of producing corn … in such a state, corn will be at an invariable price and the tax will be also invariable" (Ricardo, 1821a, p. 196). The stationary state of capital and population is inevitable and characterized by:

1. $w = w^*$, i.e. the natural wage rate is in accordance with the minimum living wage (because of population pressures). In the stationary state, the change of wages is regulated wholly by the change of the population (cf. Ricardo, 1811, p. 379).

2. Ricardo defined rent as "that portion of the produce of the earth which is paid to the landlord for the use of the original and indestructible powers of the soil" (Ricardo, 1821a, p. 53). Land is not unlimited in quantity and uniform in quality, and with the progress of population, land of an inferior quality has to be cultivated, thus the rent will be paid for the use of it. When the land of the second degree of fertility or even third degree of fertility is taken into cultivation, the rent of the first

quality land will rise, for it must always be above the rent of the second, by the difference between their productive powers with a given quantity of capital and labour (cf. Ricardo, 1821a, p. 57). There must be a very high proportion of rent income. Therefore the income distribution is extremely unequal. This implies: only a few people could be rich, mostly landowners, while the largest proportion of the population lives in poverty.

3. Positive rate of profit induces the capitalists to accumulate capital. With the capital accumulation, the labour force grows. Then both marginal product of capital/labour and the rate of profit will fall until the stationary state is reached and profit rate is zero (cf. Blaug, 1997, p. 87), which means that there is no more investment and no more growth.

"Interest is regulated chiefly by the profits that may be made by the use of capital ... A low rate of interest is a symptom of a great accumulation of capital; but it is also a symptom of a low rate of profits, and of an advancement to a stationary state; at which the wealth and resources of a country will not admit of increase" (Ricardo, 1821b, p. 474).

Since in the classical view the stationary state is inevitable, the English writer and social critic Thomas Carlyle described the political economics as "dismal science" (cf. Carlyle, Traill, 1899, p. 354). Hence, Ricardo thinks that the stationary state is inevitable and may therefore be considered a pessimistic liberal.

2.1.2 Exogenous Growth Theory: Robert Solow

The neo-classical growth model is also known as the exogenous growth model or Solow growth model. The Solow model was developed by Nobel Prize winner Robert Solow. In Solow's model, there are two factors of production: capital and labour. Technology is exogenous and represented by a production function:

$$Y = F(K,L) \tag{2-10}$$

where Y is output or income, F the function of technology, K capital input, and L labour input. Output is to be understood as net output (i.e. gross output minus the depreciation of capital). Part of the output is consumed and the rest is saved and invested.

$$\Delta K = sY \tag{2-11}$$

where s is the saving rate. This equation shows that the net investment is equivalent to the increase of the capital stock (cf. Solow, 1956, p. 66) and what is saved will be invested. Inserting (2-11) in (2-10), we get:

$$\Delta K = sF(K,L). \tag{2-12}$$

This means, the net investment depends on saving rate, technological level, capital and labour supply (cf. Solow, 1956, p. 67). Like Adam Smith, Solow stresses the importance of savings and capital formation for economic development. Solow allowed changes in wage and interest rates, substitutions of labour and capital for each other, variable factor proportions, and flexible factor prices (cf. Nafziger, 2006, p. 153).

Technological progress is introduced into the model in a very simple way. For simplicity, we can assume the production function as

$$Q = A(t)f(K,L) \tag{2-13}$$

where Q is the aggregate output (GDP), $A(t)$ a function of time that allows for neutral technological change, $f(K,L)$ a function of capital and labour (cf. Solow, 1957, p. 312). By differentiating this function, we get the growth rate of the GDP:

$$g_q = g_a + w_k g_k + w_l g_l \tag{2-14}$$

where $g_q = \dot{Q}/Q$, $g_a = \dot{A}/A$, $g_k = \dot{K}/K$ and $g_l = \dot{L}/L$ are the growth rates of the output, technology, capital stock and labour respectively; $w_k = \frac{\partial Q}{\partial K}\frac{K}{Q}$ and $w_l = \frac{\partial Q}{\partial L}\frac{L}{Q}$ are the production elasticities of capital and labour which are equivalent to the relative shares of the capital and labour in GDP (cf. Solow, 1957, pp. 312-313). Thus, to raise an economy's long term trend rate of growth requires an increase in the labour supply and a higher level of productivity (cf. Riley, 2004, p. 30).

A sustained increase in capital investment increases the growth rate only temporarily: the capital/labour ratio goes up (i.e., more capital will be available for each worker to use), but the marginal product of additional units of capital will decline (diminishing returns to capital). A "steady-state growth path" is reached when output, capital and labour are all

growing at the same rate, so output per worker and capital per worker are constant (cf. Riley, 2004, p. 30).

The neoclassical model treats productivity improvements as an "exogenous" variable, in other words, productivity is assumed to be independent of capital investment. The independence of the rate of technical change from investment and saving activity is what is meant by the statement that technical change is exogenous (cf. Riley, 2004, p. 30).

Neoclassical economics in general and neoclassical growth theory in particular is supply oriented and inspired by Say's ideas. Say's Law says that supply creates its own demand. "It is worthwhile to remark that a product is no sooner created than it, from that instant, affords a market for other products to the full extent of its own value … The only way of getting rid of money is in the purchase of some product or other. Thus the mere circumstance of creation of one product immediately opens a vent for other products" (Say, 1857, pp. 134-135). Money is employed as a mere intermediary object of exchange between an object in possession and the object of desire. Money is desired for the purpose of re-sale and re-exchange, after having been originally received in exchange (cf. Say, 1857, pp. 220-221). Hence, money is completely neutral in its effect on the economy, and there is only a transactions demand for money.

According to Kuznets' hypothesis, the process of development leads to increase in inequality as long as the surplus labour phase remains. Once that phase ends, the increase in per capita income will reduce inequality. During development with a perfect credit market, inequality will first increase and then decrease automatically. Saving equals investment, and inequality stimulates the accumulation of capital and the rate of growth (cf. Kuznets, 1955, pp. 11-25).

Moreover, income inequality is fundamentally favourable for incentives in the economic sphere and therefore should be regarded as a growth-enhancing factor:

- Only the wealth concentration on an individual could be able to cover the large costs for the implementation of new fundamental innovations and the setting up of new industries.
- Rewarding the employees with a wage dependent from output performance could encourage them to invest any effort (cf. Anand, Kanbur, 1993, pp. 25-52).

Hayek, the theorist of the free market, called for the rule of *laissez-faire* capitalism with governments' handling of the monetary system (cf. Hayek, 2001, p. 19). "There is, finally, the supremely important problem of combating general fluctuations of economic activity and the recurrent waves of large-scale unemployment which accompany them"

(Hayek, 2001, p. 125). In Hayek's view, free competition is in most circumstances the most efficient way to solve economic problems. Further, it is the only method with which the individuals' activities can be adjusted to each other without arbitrary intervention of authority (cf. Hayek, 2001, p. 75 and p. 37-38). This means, since the market is able to regulate itself, the state should intervene in the economy as little as possible. What the government should do is just to maintain the rule of law. In order to preserve the free competition, the government should limit working hour (cf. Hayek, 2001, p. 39) and transfer proper information to the individuals (cf. Hayek, 2001, p. 164). The efficient exchange and use of resources can only be maintained through the price mechanism in free markets. The price mechanism reflects local and personal knowledge, allowing society members to achieve diverse, complicated ends through spontaneous self-organization. Price signals are the only possible way allowing economic decision-makers solve the economic calculation problem through communication (cf. Peet, 2007, p. 74). Artificially low interest rates caused capital misallocation and central bank credit expansion, claimed Hayek. Generally, higher interest rates increase savings which enable higher investment in the future. "The past instability of the market economy is the consequence of the exclusion of the most important regulator of the market mechanism, money, from itself being regulated by the market process" (Hayek, 1999, p. 202). The central bank can neither have the information which should govern the supply of money nor act in the general interest (cf. Hayek, 1999, p. 202). Such an intervention of the central bank through monetary policy may cause economic depression, according to Hayek.

The critiques against the neo-classical growth model focus on the following points: the neoclassical model predicts that incomes per capita between rich and poor countries will converge. But empirical economists cannot find values for parameters and variables that are consistent with the neoclassical equation. The Solow model is a poor predictor.

Mankiw, Romer, and Weil modified the neoclassical growth model by adding human capital as an additional explanatory variable to physical capital and labour (cf. Mankiw, Romer, Weil, 1992, pp. 407-437). A society can invest in its citizens through expenditures on education, training, research, and health that enhance their productive capacity. Although there are diminishing returns to physical capital by itself, there are constant returns to all (human and physical) capital (cf. Lucas, 1988, pp. 3-42).

Despite this salvage, it still has several weaknesses, including the assumptions that markets are perfectly competitive (essential for calculating the marginal products and the human capital exponent), that technological change is exogenous, and that the level of

technology is the same throughout the world. Indeed, according to the neoclassical explanation, the technical progress takes place completely independent of decisions by people, firms, and governments (cf. Nafziger, 2006, p.155).

Keynes and Keynesian economists criticized Say's Law and neoclassical growth theory. Keynes pointed out that inequality emerged from the wrong belief "that the growth of capital depends upon the strength of the motive towards individual saving and that for a large proportion of this growth we are dependent on the savings of the rich out of their superfluity" (Keynes, 2007, p. 372). He argued that "measures for the redistribution of incomes in a way likely to raise the propensity to consume may prove positively favourable to the growth of capital" (Keynes, 2007, p. 373).

There is not only a transactions demand for money. Wages are, in the long run, almost entirely spent on consumption goods; however, large parts of property income are not devoted to consumption, but to increasing private wealth: savings may be invested for the purpose of speculation which includes buying new shares and petroleum; apart from this, savings may be "invested" in non-producible goods, e.g. land, antiquities, historically unique buildings and gold. Furthermore, savings may be invested in already existing shares and bonds or simply be hoarded which means, the wealth is held in near-money or in money form (cf. Bortis, 1997, p. 157).

Schumpeter derived from the *General Theory* of Keynes that "who tries to save destroys real capital [and that via saving] the unequal distribution of income is the ultimate cause of unemployment" (Schumpeter, 1946, p. 517), because more saving reduces consumption and then output declines due to the decrease of demand; entrepreneurs in the consumer goods sector will invest less and thus employ less labour force (cf. Bortis, 1997, p. 276). Rising unemployment induces further decrease of demand. Such a vicious circle will cause a crisis.

And last, but not least, there are the results of the capital-theoretic debate. Indeed, in a monetary production economy, with the process of production being a social and circular process, capital is not independent of value and distribution: there is no physical measure for real capital, it must be measured in terms of money; given this, the money wage rate and the rate of profits will inevitably enter the monetary value of capital. Therefore, with the conditions of production differing between industries and sectors and with complementarities dominating, there are no marginal products and hence no factor markets, and even in competitive conditions there is, in principle, no tendency towards full employment (Harcourt 1972, Bortis 1997, pp. 281-293). The results of the capital-theoretic

debate are devastating for neoclassical theory and have, as such, decisively prepared the way for establishing the Keynesian principle of effective demand.

2.1.3 Endogenous Growth Theory

Modern endogenous growth theories attempt to explain the rate of technological progress, which the Solow model takes as exogenous. These models try to explain that the decisions by people, firms, and governments determine the creation of technology through research and development (cf. Mankiw, 2002, p. 227).

We can use a basic model to illustrate the endogenous growth theory:

$$Y = AK \tag{2-15}$$

where A is a constant measuring the amount of output produced for each unit of capital (the problem of measuring capital mentioned at the end of the previous subsection (2.1.2) immediately arises here). Notice that this production function does not have the property of diminishing returns to capital. One additional unit of capital is associated to A additional units of output. The absence of diminishing returns to capital is the key difference between endogenous growth model and the Solow growth model (cf. Mankiw, 2002, p. 223).

Capital accumulation can be described with the following equation, which is also used in the Solow model (cf. Mankiw, 2002, p. 223):

$$\Delta K = sY - \delta K \tag{2-16}$$

where δ is the depreciation rate of capital. This means, the change in the capital stock equals gross investment minus depreciation of real capital.

Combining (2-15) and (2-16), we obtain:

$$\Delta Y/Y = \Delta K/K = sA - \delta . \tag{2-17}$$

This equation shows that the growth rate of GDP is determined by the saving rate, technology and depreciation rate. As long as $sA > \delta$, the income grows forever, even without the assumption of exogenous technological progress. That is to say, in this

endogenous growth model, saving and investment can lead to persistent growth (cf. Mankiw, 2002, p. 223).

The level of technical change can be influenced by investment in education to improve the quality of labour and by investment in research and development to drive better use of capital. Furthermore, the success of such investments could induce more investment and higher saving to finance it. Therefore, it is possible that an efficient circle could develop in which investment creates more knowledge, which in turn creates more investment. This endogenous growth theory enhances in a cumulative way national saving and investment (cf. Kennedy, 2000, p. 105).

Robert Lucas pointed out that international wage differences and migration are difficult to be explained with neoclassical theory. If the same technology was available globally, skilled people with human capital would not move from developing countries, where human capital is scarce, to developed countries, where human capital is abundant, as these people do now (cf. Romer, 1994, p. 11). Moreover, the neoclassical model implies that substantial international capital would move from developed countries, with high capital-labour ratios, to developing countries, with low capital-labour ratios. However, most developing countries attract no net capital inflows, and many developing countries even experience domestic capital flight.

Neoclassical theorists assume that technological discoveries are global public goods, so that all people can use new technology at the same time. However, because individuals and firms control information flows, patent protection restricts use by rivals, and charge prices for others to use the technology, new growth economists assume a temporary monopoly associated with innovation. Neoclassical economists emphasize capital formation. New growth economists stress external economies to capital accumulation that can permanently keep the marginal product of physical or human capital above the interest rate, and prevent diminishing returns from generating stagnation (cf. Grossman, Elhanan, 1994, pp. 23-44).

The critiques against the endogenous growth theory focus on the following points: one of the main failings of endogenous growth theories is the collective failure to explain conditional convergence reported in the empirical literature. Another frequent critique concerns the cornerstone assumption of diminishing returns to capital. Some investments in research and development (R&D) made net no growth at all. And some developing countries have successfully increased capital and labour productivity by using existing technologies without any new investment in R&D. The endogenous growth theory and also

the neoclassical growth theory could not explain how changes in incentives or institutions affect the variables of the model and the rate of economic growth (cf. Nafziger, 2006, p. 157). And, on the top, there are the results of the capital-theoretic debate alluded to at the end of the previous subsection (2.1.3).

2.1.4 Keynesian Growth Theory: Roy Harrod

The Harrod growth model implies that investment must increase so as to bring about additional effective demand through the multiplier mechanism.

Not all kinds of investment increase the effective demand. "When the factories stand and the machines are put to productive use, supply increases but effective demand declines because less workers are required in the investment goods sectors once the construction of the capital goods referred to is terminated" (Bortis, 2008, p. 69).

The Harrod growth model is also based on the traditional proposition that saving in a period (excess of the income in that period over consumption) equals investment, i.e. the addition to the capital stock. Let v^* stand for the value of capital required for the production of one additional unit of output (capital coefficient) and s stand for the average saving rate. The total saving is sQ_0, the addition to the capital stock is $v^*(Q_1 - Q_0)$. And so (cf. Harrod, 1939, pp. 16-18):

$$sQ_0 = v^*(Q_1 - Q_0) = I^*. \tag{2-18}$$

Therefore:

$$s/v^* = \frac{Q_1 - Q_0}{Q_0} = g^* \tag{2-19}$$

where g^* is the Harrod's warranted rate of growth (cf. Harrod, 1939, p. 18). "The warranted rate of growth is taken to be that rate of growth which, if it occurs, will leave all parties satisfied that they have produced neither more nor less than the right amount" (Harrod, 1939, p. 16).

But this warranted rate of growth is not stable and the economic system is completely unstable, because the "rationality" of the system is different from the "rationality" of

individual producers. This can be explained most conveniently by the income effect of investment and by the capacity effect of investment as have been derived by E. D. Domar:

The income effect of investment is based on the Keynesian multiplier:

$$\Delta Y = Y_1 - Y_0 = (1/s)(I_1 - I_0) = (1/s)\,\Delta I^* \qquad (2\text{-}20)$$

and the capacity effect of investment is associated to the accelerator principle:

$$\Delta Q = Q_1 - Q_0 = (1/v^*)I_0 \qquad (2\text{-}21)$$

where $1/v^*$ is the technically given output/capital ratio (cf. Domar, 1946, pp. 140-146). The income effect of investment tells that more investment induces more income and profit, whereas the capacity effect of investment implies that the rising output depends on the capital productivity and upon the investment volume.

The relationship between investment and profit represents the income effect of investment which interacts with the capacity effect of investment to produce the business cycle. In the short term only the income effect of investment is relevant, since capacities are given. As a matter of fact, the effective demand Y reacts on the change of the investment much more strongly than the output Q. In other words, the income effect of investment is much stronger than the capacity effect at the beginning period, i.e. $(1/s)$ is much bigger than $(1/v^*)$. And later, with high investment volumes the capacity effect of investment will gradually work out ever stronger (cf. Bortis, 2008, pp. 76-78). "On the basis of the income effect of investment the system links higher volumes of investment with higher profits and incomes which, on the behavioural side, induces entrepreneurs to invest more; this upward movement is reversed as soon as the capacity effect of investment works out and entrepreneurs invest less to avoid underutilization of productive capacities" (Bortis, 1997, p. 107).

Hence we have the Harrod Paradox which implies the instability of the system:

If the realized growth rate g falls below the warranted rate g^*, and then $\Delta Q > \Delta Y$, that is to say, the additional effective demand is not high enough to absorb the additional supply. The reason is that the entrepreneurs have not invested enough to create sufficient effective demand which can absorb the additional supply. But the entrepreneurs could think that they have invested too much, because the effective demand falls short of output.

Consequently, entrepreneurs will reduce investment which means that the gap between g^* and g widens even more (cf. Bortis, 2008, p. 70).

On the other hand, if realized growth rate g is greater than the warranted rate g^*, we have $v < v^*$, i.e. stocks are run down, the output is not enough to satisfy the increased demand because the entrepreneurs have invested too much and created too much effective demand. But they think that they have not invested enough and must invest even more since the demand is greater than the supply. As they invest more, again the gap between g and g^* will widen (cf. Bortis, 2008, p. 71).

The instability of the system is reduced if there are autonomous investments. Such autonomous investments may have no direct relation to the current increase of output. They may be related to a possible long period increase of activity. Or they may be induced by new inventions calculated to reduce production cost or change consumers' modes of spending their income (cf. Harrod, 1939, pp. 26-27). Then the equation becomes:

$$I = a\,Q + v^*\,\Delta Q = s\,Q. \tag{2-22}$$

The modified warranted rate of growth is:

$$g^* = \Delta Q^*/Q = \Delta I^*/ I_0 = (s - a) / v^* \tag{2-23}$$

where this v^* now stands not for the total increase of capital per additional unit of output, but only for the net increase of capital after the capital has been subtracted (cf. Harrod, 1939, pp. 28-31).

The warranted rate of growth g^* is reduced once autonomous expenditures are introduced, implying that the economic system becomes more stable. Temporarily, less investment and output growth is required to set an economy on a cumulative growth path in the direction of full employment (cf. Bortis, 2008, p. 72). The extraordinary economic upswing in Western Europe between the late 1840s and the early 1870s resulted mainly from the massive extension of the railway network. The temporary increase in autonomous expenditures led to a massive temporary increase in autonomous demand occasioned by the building up of the railway structure. "The impact on economic activity is likely to be very strong because there is an income effect of investment only, and the capacity effect is negligible. Railways and roads do not result in much direct output but provide the foundations – the infrastructure – for increased production. The impact on economic

activity of autonomous expenditures is strong because the income effect is much more important than its eventual capacity effect. As such autonomous expenditures stand in direct opposition to productive investment which is directed towards increasing output through the capacity effect" (Bortis, 2008, pp. 77-78).

2.1.5 Post-Keynesian Growth Theory: Nicholas Kaldor and Joan Robinson

The model of Kaldor begins with the assumption of full employment. Thus total output Q or total income Y is given. Income may be divided into two categories, wages W and profits P, where Profits P comprise the income of property owners generally, including ground rent. The marginal savings of the wage-earners' is smaller than those of capitalists (cf. Kaldor, 1970, pp. 83).

Then we have the following income identities:

$$Y = W + P. \tag{2-24}$$

Total income contains wages W and profits P.

$$I = S. \tag{2-25}$$

Investment is equal to saving.

$$S = S_w + S_p. \tag{2-26}$$

Savings in total contain the savings out of wages S_w and profits S_p (cf. Kaldor, 1970, p. 83).

Taking investment as given, and assuming saving functions $S_w = s_w W$ and $S_p = s_p P$, where s_w and s_p are the saving rate of workers and property owners. Then we get:

$$I = s_p P + s_w W = s_p P + s_w(Y - P) = (s_p - s_w)P + s_w Y. \tag{2-27}$$

Both sides divided by Y, we get

$$\frac{I}{Y} = (s_p - s_w)\frac{P}{Y} + s_w \tag{2-28}$$

and $$\frac{P}{Y} = \frac{1}{s_p - s_w} \frac{I}{Y} - \frac{s_w}{s_p - s_w}. \quad (2\text{-}29)$$

Thus, given the marginal propensities to save of both classes, the share of profits in income is only dependent on the investment decision *I/Y*. The more investment, the greater the share of profits out of income. In other words, investment determines profits (cf. Kaldor, 1970, p. 83).

Because saving is independent and the economy has full employment, the level of the prices in relations to the level of money wages is determined by demand: rising investment and thus rising demand will raise prices and profit margins, and thus reduce real consumption, whilst falling investment and thus falling demand causes a fall in prices (relatively to the wage level) and thereby generates a compensating rise in real consumption. The system is thus stable at full employment (cf. Kaldor, 1970, p. 84).

The model operates only if the two savings propensities differ and the marginal propensity to save from profits (s_p) exceeds that from wages (s_w), i.e., if

$$s_p \neq s_w \quad (2\text{-}30)$$

and $$s_p > s_w. \quad (2\text{-}31)$$

The latter is the stability condition. Because if $s_w > s_p$, a fall in prices will cause a fall in demand and thus generate a further fall in prices, and a rise in prices will be also cumulative. The stability of the system depends on the difference of the marginal propensities to save. $1/(s_p - s_w)$ may be defined as the coefficient of sensitivity of income distribution, because it indicates the change in the share of profits in income which follows on a change in the share of investment in output (cf. Kaldor, 1970, p. 84).

If the difference between s_p and s_w is small, the coefficient will be large. This means that a small change in investment-output ratio *I/Y* will cause a large change in income distribution *P/Y*. In the limiting case, the workers save nothing and thus $s_w = 0$, the profits are equal to the sum of investment and capitalists' consumption:

$$P = \frac{1}{s_p} I. \quad (2\text{-}32)$$

This equation implies that reducing savings of capitalists will only result in increased profits.

Note this is the assumption implicit in Keynes' famous parable about the widow's cruse: "If entrepreneurs choose to spend a portion of their profits on consumption ... the effect is to increase the profit on the sale of liquid consumption goods by an amount exactly equal to the amount of profits which have been thus expended. This follows from our definitions, because such expenditure constitutes a diminution of saving ... Thus, however much of profits entrepreneurs spend on consumption, the increment of wealth belonging to the entrepreneurs remains the same as before. Thus, profits, as a source of capital increment for entrepreneurs, are a widow's cruse which remains undepleted however much of them may be devoted to riotous living" (Keynes, 1930, p. 139). Kalecki described this as "capitalists earn what they spend and workers spend what they earn" (cf. Kaldor, 1970, p. 84).

In this model, the workers save nothing, $s_w = 0$, wages are a residue and profits are governed by the propensity to invest and the capitalists' propensity to consume.

Following Harrod, the determinants of the investment-output ratio are growth rate of output capacity g and the capital-output ratio v:

$$I/Y = (I/K)(K/Y) = gv. \tag{2-33}$$

In a state of full employment, the natural rate of growth g must be equal to the sum of the rate of the technical progress and the growth rate of the working population (cf. Kaldor, 1970, p. 86).

Now recall Kaldor's relationship, $P = \frac{1}{s_p} I$. Thus:

$$P/Y = \frac{1}{s_p}(I/Y), \tag{2-34}$$

recalling $I/Y = gv$, then we obtain: $P/Y = \frac{1}{s_p} gv$, so that $g = \frac{s_p}{v}(P/Y)$.

And $v = K/Y$, then we can rewrite this equation as:

$$g = s_p (P/K). \tag{2-35}$$

Note that the ratio P/K is the rate of profit r. Thus we get the profit rate equation:

$$r = \frac{g}{s_p}. \tag{2-36}$$

This equation implies that profit rate is dependent on the growth rate and the saving rate of capitalists, namely, increasing growth rate and declining saving rate of capitalists lead to increasing profit rate.

According to Joan Robinson, investment in productive capital is entirely governed by decisions of firms (cf. Robinson, 1970, p. 117). Net saving is the excess of net income over consumption and identical with net investment (cf. Robinson, 1970, p. 121).

$$Y = S + C = I + C. \tag{2-37}$$

The simplest assumption about the relation between income and saving is used by von Neumann: there are two classes of income, profits P and wages W; all wages are spent and all profits saved (cf. Robinson, 1970, p. 119). Thus:

$$\begin{array}{l} Y = W + P \\ \quad\|\quad\quad\|\quad\quad\| \\ Q = \ C + I \end{array} \tag{2-38}$$

where C is the consumption and I is the investment, and income Y is equal to output Q. Profit per year is equal to the net investment and the renters' consumption. The profit rate is determined by the ratio of net investment to the stock of capital (accumulation rate) and proportion of profits saved. The level of wages is determined by the technical conditions and the profit rate (cf. Robinson, 1970, p. 126).

To sustain a higher growth rate (i.e. rate of accumulation) requires a higher level of profits, because it offers more favourable odds in the gamble and it makes finance more steadily available (cf. Robinson, 1970, p. 118). The investment decisions by firms depend on the expected profit. We can rewrite this assumption as:

$$I/Y = f(P/Y) \ \ or \ \ g = f(r) \tag{2-39}$$

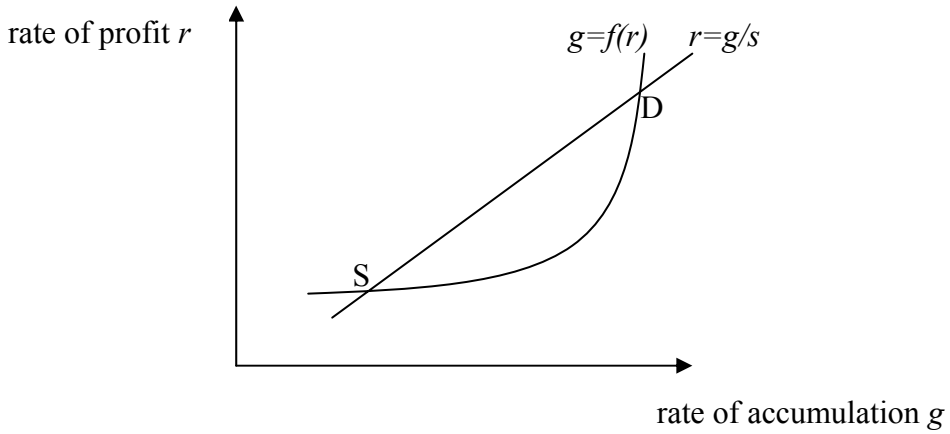
where $r = P/Y$ is the profit rate, and P is the profit. Based on Kalecki's (1937) principle of increasing risk, investment is positively related to expected profit, but at a decreasing rate, because each additional unit of investment means more debt and thus more risk to the firm (cf. Kalecki, 1937, pp. 440-447). Thus this function is concave.

Robinson argued that the relationship between the rate of accumulation g and the rate of profit r is double-sided. The accumulation going on in a particular situation determines the level of profits obtainable in it and thus the rate of profit expected on investment, which in turn influences the rate of accumulation (cf. Robinson, 1970, p. 128).

As shown in Figure 2.1, the curve $r=g/s$ represents the expected rate of profit on investment as a function of the rate of accumulation that generates it. The curve $g=f(r)$ represents the rate of accumulation as a function of the rate of profit that induces it (cf. Robinson, 1970, p. 129).

When the firms find themselves in a situation right to the rightmost equilibrium D, i.e. the economy generates less profits than planed. Thus the firms will reduce investment and hence reducing growth. To the left of this equilibrium, the economy generates more profits than planed, the firms will revise expectation upward and invest more, hence increasing growth. Thus, the equilibrium D is stable. For the same reasons, the other equilibrium S is unstable (cf. Robinson, 1970, pp. 129-130).

Figure 2.1 Relationship between growth rate and profit rate



Source: Robinson, 1970, p. 129.

According to Joan Robinson, a steady rate of capital may take place below full employment. The stock of plant has the composition appropriate to the desired rate of

accumulation (so-called golden age), but there is not enough of it to employ the whole labour force (cf. Robinson, 1970, p. 134). The desired rate of growth may fall short of the rate of growth of labour force and the growth of output per head due to autonomous and competitive innovations (cf. Robinson, 1970, p. 133).

2.1.6 Technological Progress and Economic Growth

In Schumpeter's vision of economic growth, the innovative activity of entrepreneurs was the major force to sustain long-term economic growth, since dynamic entrepreneurs introduce new techniques of production and new products which will in part destroy actually prevailing situations to create new profit opportunities. New profit opportunities are the incentives for new investment, which, in turn, creates new growth. This is Schumpeter's *creative destruction*, which is based on the rational behaviour of producers and consumers in disequilibrium situations, with economic activity fluctuating around full-employment positions (cf. Bortis, 1997, p. 277) and also on Say's Law: each supply creates its own demand (cf. Say, 1857, pp. 134-135).

However, new technology may not be suitable when (1) an industry requires virtually unalterable factor proportions; (2) modifying existing technologies is expensive; (3) capital-intensive technology reduces skilled labour requirements and creates thus structural unemployment; and (4) factor prices are distorted (cf. Nafziger, 2006, p. 46). Empirical evidences show us that some developing countries were able to increase capital and labour productivity by using existing technologies without any additional investment in Research & Development (cf. Nafziger, 2006, p. 157). Furthermore, technological progress might tend to overinvestment in the economy because the firm that introduces a better design for the production of an existing good forces the competing firms to abandon their own methods of production immediately, even when their current equipment is not fully depreciated (cf. Valdés, 1999, p. 158).

Pasinetti's theory of economic growth, with its emphasis on both technological innovation and effective demand, argues that the capitalist economic system does not automatically bring about a proper match between growth of technological efficiency and growth of effective demand (cf. Köhler, Tausch, 2002, p. 156). "This is the point where the 'institutional problems' that any economic system must face become relevant" (Pasinetti, 1993, p. 116). Therefore, the institutions of society must intervene in the market in order to bring about the proper level of effective demand (cf. Köhler, Tausch, 2002, p. 156), which

is the ultimate driver for the investment in innovation and economic growth. Without sufficient expectation of the volume of sales, i.e. effective demand, the entrepreneurs will not make huge investment in production (see subchapters 2.3 and 6.6-6.8), including the investment to acquire new technologies. Pasinetti speaks of "existence of a permanent task of pursuing ... effective demand and full employment" (Pasinetti, 1993, p. 59).

In general, appropriate technologies in developing countries absorb more unskilled labour than in industrialized countries. Planners or entrepreneurs of developing countries must examine existing technologies for possible substitution of labour for capital and might choose a more labour-intensive existing technology (cf. Nafziger, 2006, p. 327-351) to ensure the employment and thus consumption market. Indeed, it is the existence of sufficient aggregate demand that provides entrepreneurs with incentives to invest in technology and innovation, not vice versa. Hence, technological progress is a necessary condition for growth, but is not sufficient; it is effective demand, which, together with technological progress makes the preconditions for growth necessary and sufficient.

2.2 Economic Growth and Economic Development

Unlike economic growth which is quantitative and usually measured by GDP, economic development is a more complex process involving not only economic, but also many social, political, technological and cultural changes. One could define economic development narrowly "as the process of increasing the degree of utilization and improving the productivity of the available resources of a country which leads to an increase of the economic welfare of the community by stimulating the growth of national income" (Eshag, 1983, pp. 1-2). Kindleberger and Herrick supplied standard definitions for growth and development: "… economic growth means more output … economic development implies not only more output but also different kinds of output than were previously produced, as well as changes in the technical and institutional arrangements by which output is produced and distributed" (Kindleberger, Herrick, 1977, p. 21).

Economic development is usually measured by the growth in per capita Gross National Product (GNP) at constant prices or per capita real income. Furthermore, income distribution must be taken into account. This means, all members of the society should benefit equally from a rise in national income. It is impossible to numerically quantify the magnitude of utility changes in the individual economic welfare that may result from a redistribution of income among the members of a society. But it is clear that for various

income groups there are different utilities of a given increment in their real income, namely, the lower the income the higher the utility. To take an extreme example, a very poor family has to use each increase in real income to buy food so that they can survive. Income distribution is an essential part of economic development, since the key aim of development is to increase the economic welfare of the community as a whole (cf. Eshag, 1983, pp. 2-3).

Thus, economic growth is quantitative and related to the Gross Domestic Product (GDP); however, economic development is more qualitative and related to living standards including consumption, employment, income distribution, social insurance, education etc.

Robinson used the phrase "a golden age" to describe smooth and steady growth with full employment: "With a desired rate of accumulation equal to the possible rate, compounded of the rate of growth of population and of output per head, starting with near full employment and a composition of the stock of plant appropriate to the desired rate of accumulation, near full employment is maintained" (cf. Robinson, 1970, p. 133). In the golden age, tranquility is secured by stable long term expectations. But great number of uncertain factors may influence the profitability of each investment project (unexpected change of market, uneven technical progress and the changing behaviour of the competitors with respect to the pricing, marketing etc.), thus, an economy can never get into equilibrium. Consequently, the concept of stable long-run expectations linked with the golden age becomes largely meaningless and constitutes a target of neoclassical criticism (cf. Bortis, 1997, p. 205).

In the cyclical process (business cycle-cum-growth theory), the short- and medium-term income effect of investment cause instability while the long run capacity effect turns out to be a stabilizing factor which attracts realized output towards the trend level (cf. Bortis, 1997, p. 211). In the long run, the trend effective demand governs economic activity; moreover, investment must be financed by trend saving since each debt at present has to be repaid by future incomes (cf. Bortis, 1997, p. 212).

According to the neoclassical interpretation of the double-sided relationship between investments and profits, prices and profits increase relative to money wages in the cyclical upswing and vice versa. Lower wages are associated with higher employment levels and vice versa. Unemployment occurs because real wages are too high (cf. Krelle, 1992, p. 76). Thus low wages level is good for development. However the classical-Keynesian economist argues that high real wages can not be the cause of high unemployment. In the downswing of an economy, reduced investment cause diminishing employment and

effective demand, which induce lower prices and profits relative to money wages. In the long run, an increasing wage share in income (and thus decreasing share of profits) is positively associated with normal employment. This directly follows from the supermultiplier relation (cf. Bortis, 1997, pp. 213-214), which will be reviewed in the next Chapter (2.3).

2.3 Classical-Keynesian Theory of Development

Keynesian analysis viewed investment spending as an autonomous component of aggregate demand and focused on its multiplier impact on income. According to the Keynesian theory, unemployment occurs because aggregate demand by consumers, businesses, and government for goods and services is not large enough to reach full employment. The Keynesian prescription for unemployment is to increase aggregate demand through more private consumption and investment (by reduced tax rates or lower interest rates) or through more government spending. As long as there is unemployment and unutilized capital capacity in the economy, production will respond automatically to increased demand through higher employment (cf. Todaro, pp. 174-179).

Keynes was against the opinion that higher interest rates meant higher saving and investment. “The influence of changes in the rate of interest on the amount actually saved is of paramount importance, but is *in the opposite direction* to that usually supposed. For even if the attraction of the larger future income to be earned from a higher rate of interest has the effect of diminishing the propensity to consume, nevertheless we can be certain that a rise in the rate of interest will have the effect of reducing the amount actually saved. For aggregate saving is governed by aggregate investment; a rise in the rate of interest (unless it is offset by a corresponding change in the demand-schedule for investment) will diminish investment; hence a rise in the rate of interest must have the effect of reducing incomes to a level at which saving is decreased in the same measure as investment. Since incomes will decrease by a greater absolute amount than investment, it is, indeed, true that, when the rate of interest rises, the rate of consumption will decrease. But this does not mean that there will be a wider margin for saving. On the contrary, saving and spending will both decrease” (Keynes, 2007, pp. 99-100). In other words, even if a rise in the rate of interest would cause the community to save more out of a given income, however, it would also cause decrease in investment and income, therefore actual aggregate savings would

decrease. Both lower tax rates and lower interest rates would contribute to the income increase of workers and thus the increase of private consumption.

Keynesian-Marxian monetary theory of production is summarised by the sequence:

$$M - C \ldots P \ldots C' - M'. \tag{2-40}$$

The companies invest the money M to buy means of production *C*; within the social process of production *P* the goods *C'* are produced, which are sold later against money *M'*. Ricardo and also Marx argue that the social surplus *M'-M* arises in the social process of production *P*. The surplus must be large enough to make the production happen, in other words, the entrepreneurs must benefit. The system of classical-Keynesian political economy is derived from the ideas of Ricardo, Quesnay, Marx and Keynes; Ricardo, Quesnay and Marx are associated with production, Keynes with money (cf. Bortis, 1997, p. 142).

The Keynesian trend model "pictures uniquely the functioning of the system, i.e. the interplay of institutions, and is associated with fully adjusted situations" (Bortis, 1997, p. 136). Trend or long-period output *Q** and employment *N** are, in principle, determined by effective demand components. And all of these components are governed by institutions and technology, i.e. the conditions of production (cf. Bortis, 1997, p. 142, p. 200).

The autonomous variables (government expenditures *G* and exports *X*), which increase derived demand, i.e. consumption and investment, are linked with equilibrium output and employment through the supermultiplier (cf. Bortis, 1997, pp. 142-154 and Bortis, 2003, pp. 461-67).

$$Q^* = \frac{G + X}{z_s \left[1 - (1/k)\right] + \pi(b_1 + b_2) - (g + d)v} \tag{2-41}$$

where *Q** is trend or long-period gross domestic product; the star indicates that all the magnitudes on the right hand side represent effective demand components associated with institutions and with the conditions of production (cf. Bortis, 1997, pp. 199-204).

The trend rate of growth of output and employment, *g*, is determined by the rate of growth of the autonomous variables. *d* is the replacement coefficient (or depreciation rate) and *v* is the capital-output ratio; *(g+d)v* represents the gross-investment/output ratio. The trend investment volume *I* = (g+d)vQ** is thus derived demand, depending upon the long-

period growth of output. The terms of trade π; b_1 is the fraction of output required to buy the imports necessary in the social process of production and b_2 the fraction of income spent upon non-necessary goods associated with consumption. *1-(1/k)* is the share of property income (k is the realized mark-up), in fact, the social surplus, comprising profits, land rents and labour rents associated with special abilities and with privileges of some kind. The leakage coefficient $z_s = 1 - c_s = s_s + t_s$ indicates the fraction of the surplus over ordinary wages which is not consumed, the fraction consumed being c_s. The long-period consumption coefficient c_s and the long period tax coefficient t_s are both determined by institutions – consumption habits and tax laws – and the long-period saving propensity s_s is, fundamentally, a pure residual varying with the normal or trend level of output and employment (cf. Bortis, 1997, pp. 166-168).

z_s is the leakage out of property income and $z_s[1 - (1 / k)]$ is the leakage out of domestic income which is negatively associated with output and employment. The leakage out of income increases when income distribution gets more unequal, i.e. if the property share *[1-(1/k)]* increases and if property income is itself unequally distributed. The latter implies that the leakage out of property income ($z_s = 1 - c_s = s_s + t_s$) is large, since more is saved if property income is unequally distributed. The negative association between unequal distribution and the level of output and employment is the crucial feature of the supermultiplier relation.

Saving is a pure residual. This means that the process of adjustment to the long period equilibrium is principally based upon quantity adjustments (cf. Bortis, 1998, pp. 25-29). The institutionally governed autonomous demand components, normal government expenditures (G) and normal exports (X), are principally independent of the level of economic activity and set the economic system into motion; output and employment increase until macroeconomic equilibrium ($S=I$) is achieved. The economic system is stable and the volume of long-period investment represents derived demand governed by the functioning of the system (cf. Bortis, 1997, pp. 166-168).

The aggregate savings depends not on the interest rate, but on the level of aggregate income. “Saving is the act of the individual consumer and consists in the negative act of refraining from spending the whole of his current income on consumption. Investment, on the other hand, is the act of the entrepreneur whose function it is to make the decisions which determine the amount of the non-available output, and consists in the positive act of starting or maintaining some process of production or withholding liquid goods. The vital point to appreciate is this ... the performance of the act of saving is in itself no guarantee

that the stock of capital goods will be correspondingly increased" (Keynes, 1930, pp. 172-175).

Saving has a negative immediate effect on employment and thus a negative effect on economic development because a diminished propensity to consume has a depressing effect on employment. Saving "is not a substitution of future consumption-demand for present consumption-demand, - it is a net diminution of such demand. Moreover, the expectation of future consumption is so largely based on current experience of present consumption that a reduction in the latter is likely to depress the former, with the result that the act of saving will not merely depress the price of consumption-goods and leave the marginal efficiency of existing capital unaffected, but may actually tend to depress the latter also. In this event it may reduce present investment-demand as well as present consumption-demand" (Keynes, 2007, pp. 190-191).

From the supermultiplier relation we can directly derive the 'internal' multiplier based upon the macroeconomic equilibrium condition 'saving equal investment' by postulating equilibrium in the foreign balance:

$$Q_i^* = \frac{G}{z_s\left[1-\left(1/k\right)\right]-\left(g+d\right)v} \tag{2-42}$$

In the long run, investment is derived demand (since $S=I$ and saving is a pure residual), output and employment depend, in principle, upon the relation between government expenditures and the leakage (z). The latter is dependent upon income distribution: s increases if the distribution of income becomes more unequal ($z = 1- c = s + t$). The negative association between unequal distribution and employment constitutes the crucial feature of the long-period 'saving equal investment' or 'internal' multiplier or internal employment mechanism (cf. Bortis, 1997, p. 190).

The 'foreign trade multiplier' picturing the 'external' employment mechanism obtains from the foreign balance equilibrium:

$$Q_e^* = \frac{X}{\pi\left(b_1+b_2\right)} \tag{2-43}$$

In principle, output and employment are larger, the higher the export volume, the lower the import dependence and the more favourable the terms of trade are (a low π

indicates favourable terms of trade). This effect will be particularly strong if exports mainly consist of labour-intensive high-quality manufactures and imports of land-intensive primary products and standard manufactured goods (cf. Bortis, 1997, p. 191).

Keynes thought that monetary policy (adjusting money supply and interest rate) alone was not sufficient for encouraging or discouraging investment, because the economy is not able to self-regulate. Investment depends ultimately not upon the interest rate, but upon the aggregate demand. The key to keep a sustaining economic growth was stimulating demand. The government must intervene in the economy through fiscal policy by adjusting tax rates, social security, and unemployment benefits, and spending on infrastructure and government services to create jobs (cf. Dileo, 2009; cf. Cutler, et al., 1986, pp. 69-71).

Keynes objected to both inflation and deflation, but for him a very modest level of inflation would be preferable in any case to a deflationary contraction of prices. He argued that "it is worse, in an impoverished world, to provoke unemployment than to disappoint the rentier" (Keynes, 1924, pp. 44-45). An appropriate light inflation would be good since "depreciated money assisted the new men and emancipated them from the dead hand; benefited new wealth at the expense of old, and armed enterprise against accumulation ... It has been a loosening influence against the rigid distribution of old-won wealth ... By this means each generation can disinherit in part its predecessors' heirs" (Keynes, 1924, pp. 12-13). Deflation permits the "rigid distribution of old-won wealth" to hinder the investment of the new wealth-producing entrepreneur. Under a deflationary policy, an increasingly large share of the national income would accrue to the rentier class. An intolerable burden would fall on the productive classes, so that the welfare of the community as a whole would decrease (cf. Dillard, 2005, pp. 303-304). A modest level of inflation and a constant level of wages (in the short term) let the product prices rise, so that the profits increase. Consequently the entrepreneurs have great incentive to invest more. The tendency to full employment will be promoted and the effective demand rises. Although the middle class with the wages as principal source of income will be impoverished slightly, however their opportunities to find a job increase greatly. The wellbeing of the middle class moves in the same direction as aggregate consumption.

2.4 Socialistic View on Growth: The Economic Ideas of Mao Zedong

Karl Marx remarked the well known theory of socialist distribution in his *Critique of the Gotha Program*, that in the higher phase of communist society, the distribution norm

would be “from each according to his ability, to each according to his needs” (cf. Marx, Engels, pp. 13-30). Since China is a developing country, the Chinese government always claims that China is still in the primary phase of socialism. In practice the Maoist egalitarian strategy went beyond this Marxist principle and implemented a new version in China: “from each according to his ability, to each according to his work”. The latter part is virtually the statement of equality norm. The implementation of the equality norm was regarded as the only way to promote the growth of China’s productivity (cf. Kao, Sinha, Wilpert, 1999, p. 173).

The two basic principles of economic development in the 1950s were:

1. Incorporate the whole country and avoid creating any further inequality at the regional or local level; and

2. Based on the principle of self-reliance, or self-sufficiency, build up economic capacity at both the local and the national level to prevent further dependence on foreign nations (cf. Smith, 1991, p. 157).

Mao’s concept of self-reliance included:

- Fully using domestic resources, including finance, skills and labour,
- Rejecting indiscriminate imitation of foreign methods in favour of developing indigenous technology and
- Establishing a comprehensive industrial system (cf. Riskin, 1987, pp. 75-291).

In 1954 Mao said: “Under present conditions of production there is already a surplus of roughly one-third of labour power. What required three people in the past can be done by two after cooperative transformation, an indication of the superiority of socialism. Where can an outlet be found for this surplus labour power of one-third or more? For the most part is still in the country-side ...The masses have unlimited creative power. They can organize themselves to take on all spheres and branches of work where they can give full play to their energy, tackle production more intensively and extensively, and initiate more and more undertaking for their own well being” (Mao, 1978, p. 269).

According to such ideas the government developed a broad overall policy of promoting undertakings in the following groups: physical capital formation via land reclamation, hill forestation and irrigation; infrastructure (roads, bridges and buildings); energy; rural sidelines and industries; and human capital formation (public sanitation, clinics and schools). On land reclamation and forestation Mao Zedong stressed the need for “state organised land reclamation by bringing plenty of wasteland under cultivation in the

course of three five year plans". He went on to say: "I think the barren mountains in the north in particular should be afforested, and they undoubtedly can be. Do you comrades from the north have courage enough for this? Many places in the south need forestation too. It will be fine if in a number of years we can see various places in the south and north clothed with greenery" (Mao, 1978, pp. 197-219).

Mao Zedong confidently expected that the annual labour days employed per worker would rise substantially and that female participation rates would also rise as more rural undertakings were established, existing labour surplus thereby mobilised and increasing supply elicited: "Before the cooperative transformation of agriculture, surplus labour-power was a problem in many parts of the country. Since then many cooperatives have felt the pinch of a labour shortage and need to mobilise the masses of the women, who did not work before revolution, to take their place on the labour front ... For many places the labour shortage becomes evident as production grows in scale, the number of undertakings increases, the efforts to remake nature become more extensive and intensive" (Mao, 1978, p. 268).

Further, "things in this country also show us that an outlet can be found in the villages for rural labour power. As management improves and the scope of production expands, every able-bodied man and woman can put in more work-days in the year. Instead of over one hundred workdays for a man and a few score for a woman as described in this article the former can put in well over two hundred workdays and the latter well over one hundred or more" (Mao, 1978, p. 270).

Mao encouraged the establishment of small backyard steel furnaces in every commune and in each urban neighbourhood. Huge efforts on the part of peasants and other workers were made to produce steel out of scrap metal (cf. Fang, 2007, p. 155).

However, Mao's deep distrust of intellectuals and faith in the power of the mass mobilization of peasants led him to order this massive countrywide effort without consulting expert opinion. The implementation of such heavy-industry-oriented development strategy had induced two major problems: the distortion in the industry structure and the ineffective incentive mechanism (cf. Lin, Cai, Li, 2003, p. 91) which impeded the economic growth in China.

2.5 Deng Xiaoping's View on Growth – Socialism with Chinese Characteristics

Socialism with Chinese characteristics is an official term for the economy of the People's Republic of China (PRC) since its economic reform in 1980s. This is a form of a socialist market economy and means that both state planning and market forces play a key role in the economic development. It is an economy with organic integration of a planned economy and market regulations (cf. Nehru, Kraay, Yu, 1997, p. 9).

The main idea of Deng Xiaoping on "Socialism with Chinese characteristics" is that: "Planning and market forces are not the essential difference between socialism and capitalism. A planned economy is not the definition of socialism, because there is planning under capitalism; the market economy happens under socialism too. Planning and market forces are both ways of controlling economic activity" (Gittings, 2005, pp. 103-253).

In his speech at the Twelfth National Party Congress on 1st September 1982, Deng Xiaoping pointed out: "In carrying out our modernization we must proceed from Chinese realities. Both in revolution and in construction we should also learn from foreign countries and draw on their experience. But mechanical application of foreign experience and copying of foreign models will get us nowhere. We have had many lessons in this respect. We must integrate the universal truth of Marxism with the concrete realities of China, blaze a path of our own and build a socialism with Chinese characteristics. That is the basic conclusion we have reached after reviewing our long history" (Deng, 1993, pp. 2-3).

Deng thought that the Chinese were not quite clear about the meaning of socialism and Marxism in the past. Poverty is not socialism; to be rich is glorious, declared Deng Xiaoping. Marxism attaches utmost importance to developing the productive forces (cf. Strother, Strother, 2006, p. 36). Socialism, according to Marxism, is the primary stage of communism and that at the advanced stage the principle of contribution from each according to his ability and distribution to each according to his needs will be applied. This calls for highly developed productive forces and an overwhelming abundance of material wealth. Therefore, the fundamental task for the socialist stage is to develop the productive forces. As they develop, people's material and cultural life will constantly improve. One of the most important shortcomings after the founding of the People's Republic was that the country didn't pay enough attention to developing the productive forces. Socialism means eliminating poverty, according the new explanation of Deng (cf. De Bary, Lufrano, Chan, 2000, p. 508).

The ruling Communist Party of China argues that socialism is not incompatible with these economic policies. Therefore China's government believes that it has not abandoned Marxism, but has further-developed many of the concepts of Marxist theory in order to adapt China's new economic system. Very important: in current Chinese Communist thinking, the People's Republic of China (PRC) is at the primary stage of socialism, and this redefinition allows the PRC to undertake whatever economic policies are needed to develop into an industrialized nation.

In 1992 Deng Xiaoping gave a series of talks calling for a more vigorous open-door and active economic policy. He told the people that the way how China chooses development strategies depends no more on whether they are capitalistic or socialistic, but only depends on whether or not they are in accordance with the following "three favourables":

- favourable to developing the productivity in the socialist society,
- favourable to consolidating China's comprehensive national strength and
- favourable to raising the people's living standards (cf. He, 2000, p. 24).

The dominant ideology in China today is rather pragmatic rationalism, which is reflected by the famous "cat theory" of Deng Xiaoping. As a pragmatist, Deng Xiaoping was willing to employ a temporary expedient whenever necessary, which was expressed by his well-known saying: "It doesn't matter whether it's a black cat or white cat; it's a good cat as long as it catches mice" (Ju, Chu, 1996, p. 44).

2.6 Factors affecting growth

Generally, economic growth depends on increases in the quantity and quality of capital and labour (the basic inputs of the macroeconomic production process), and on the way how they are combined. The technological progress, which contributes to the improvements in the quality of labour and capital, is thought by many economists to be the most important determinant of growth (cf. Kennedy, 2000, p.102).

The following are the five main sources of GDP growth:

1. An increase in the quantity of the labour force. Examples of supply-side policies are immigration regulations, maternity and childcare benefits, retirement benefits, and tax incentives.

2. An increase in the quality of the labour force. Examples of supply-side policies are subsidies for retraining programs and the investment in education oriented closely to the needs of industry.

3. An increase in the quantity of the stock of physical capital. (Physical stock equals the number of buildings and the amount of equipment firms have to work with.) Examples of supply-side policies are tax incentives for investment and saving.

4. An increase in the quality of the capital stock. Examples of supply-side policies are tax incentives for research and development, and promotion of competition.

5. Improvements in the way in which capital and labour are combined to produce output. Such Improvements could be made by better worker and management relations, specialization, economies of scale, or the migration of workers from areas of low productivity to areas of high productivity, such as movement of farm workers to the cities (cf. Kennedy, 2000, pp. 103-104).

An increasing material standard of living enjoyed by people in the economy is associated with the economic growth. The main determinant of this standard is an economy's productivity, usually measured as output per working hour. Growth in productivity results from increases in physical capital, higher quality of labour and capital, and improvements in how capital and labour are combined. All of these factors are affected by institutional features of the economy (cf. Kennedy, 2000, p. 104).

Chiefly there are four factors, which influence the economic growth essentially:

1. Population

The classical economist Thomas Robert Malthus contends that the population growth is an obstacle to economic development. However Julian L. Simon argues that population spurs innovation and development (cf. Nafziger, 2006, p. 284).

High fertility rates and rapid population growth induce possible costs which hamper economic development. For example, diminishing returns to natural resources, with an adverse impact on average food consumption, a higher labour force growth rate and higher unemployment, increased urbanization and congestion.

The fertility decreases with economic development, urbanization, industrialization, mobility, literacy, female labour force participation, reduced income inequality. But these efforts will not be successful unless socioeconomic development and improved income distribution make birth control seem advantageous (cf. Nafziger, 2006, p. 305).

2. Employment, Migration, and Urbanization

Production depends on the flow of natural resources, capital, labour, technology and entrepreneurship. In developing countries the labour force usually grows faster than job opportunities, thus unemployment grows (cf. Zopf, 1984, p. 347). Rural-urban migration contributes to the rapid growth of the urban labour force in developing countries. Farm labour migrates to urban areas not only for higher wages, but also for more employment opportunities.

According to the Keynes's general theory of income and employment, a country's employment increases with GNP. Unemployment occurs because aggregate demand by consumers, companies, and government for goods and services is not enough for GNP to reach full employment. The Keynesian solution for unemployment is to increase aggregate demand through more private consumption and investment (by reduced tax rates or lower interest rates) or through more government spending.

However, there are possible tradeoffs between employment and output from inappropriate technology in developing countries. The industrialized countries have a relative abundance of capital and scarcity of labour; however the developing countries have abundant labour and scarce capital. Technology designed for the industrialized countries is often not suitable for developing countries (cf. Nafziger, 2006, pp. 320-330).

Unemployment can be reduced by discouraging rural-urban migration, in other words, improving the rural economic development. Such development can be realized by removing price upper limits on food and other agricultural goods, technological change in agriculture, locating new industries in rural areas, and providing more schools, housing, food, hospitals, health services, roads, entertainment and other amenities.

Generally appropriate technologies in developing countries use more unskilled labours than in developed countries. The use of appropriate technology can be stimulated by intra-industry substitution, inter-product substitution, greater income equality, government purchase of labour-intensive goods, using less-modern equipment (cf. Nafziger, 2006, pp. 325-326).

3. Education, Health, and Human Capital

Investment in human capital includes expenditures on education, training, research and health, enhancing future productivity. In developing countries the expansion of primary education redistributed benefits from the rich to the poor, however, the growth of secondary and higher education redistributes income from the poor to the rich. On-the-job training tends to balance demand for and supply of training (cf. Nafziger, 2006, pp. 357-358). The methods of distance learning through TV and internet can be used to increase the

productivity of education systems and dramatically reduce the cost of providing education, including teacher training and salary (cf. Perraton, Lentell, 2004, p. 235).

Educational budgets in developing countries should be more oriented toward primary education and technical learning. Many secondary school graduates are trained in the humanities and social sciences but lack the scientific, technical, and vocational skills for work in a modern economy. Subsidies for secondary and higher education should be reduced because they encourage a surplus of educated people, some of whom become unemployed. In order to improve income distribution, subsidies might be made for scholarships for the poor (cf. Nafziger, 2006, pp. 329-330).

4. Capital Formation and Technical Progress

For the rapid economic growth of the West and Japan in the last 150 years, two major factors were capital formation and technical progress. But the contribution of capital formation and technical progress to economic growth differs in developed countries and developing countries.

Econometric studies of developed countries indicate that the increase in the productivity of each worker per unit of capital is more important for growth than the addition in capital per worker. The possible explanations for this increase in productivity are advances in knowledge, greater education and training, learning by experience, organizational improvement, economies of scale and resource shifts (cf. Nafziger, 2006, pp. 388-389).

However, the research in developing countries provides evidence that the contribution of capital per worker is more important to economic growth than that of worker productivity per unit of capital. Adding capital to an existing labour force makes large gains in productivity when there is very little capital. That is, marginal productivity of capital in the developing countries is higher than that in the developed countries (cf. Kroon, 2007, p. 117). Further, the increase in labour productivity through education and training requires also a large amount of capital investment which can not be accomplished in the primary phase of economic development.

Technical progress results from a combination of research & development, invention and innovation. Technical knowledge from abroad is costly and usually incomplete. The planners of developing countries must examine existing technologies for possible substitution of labour for capital. Before taking new technologies, the high cost of adapting and modifying should be taken into consideration (cf. Nafziger, 2006, p. 389).

3. Major Achievements of China's Growth since the 1980s

China is successfully feeding 22 percent of the world's population on just 7 percent of the world's arable land (cf. OECD, 2000, p. 255). This might be the greatest achievement for China, one of the most densely populated, large economically backward countries of the world.

China has been the fastest growing economy in the world for over three decades, expanding at nearly 10 percent a year. As a result, real GDP in 2006 was about 13 times the level of 1978 (cf. National Bureau of Statistics CD-ROM, 2007, table 3-1), when Deng Xiaoping launched China on the path of economic reform and open door policy. China is now the world's third largest trader and, when measured at market exchange rates, fourth largest economy of the world concerning GDP (cf. Bergsten, et al., 2008, p. 106).

China's long boom is a major episode in global economic history. The broad outlines of China's growth include enormous expansion of output, employment, productivity, exports and incomes; unprecedented progress in poverty reduction and material well-being; and the integration of China as a major force in global markets (cf. Brandt, Rawski, 2005, p. 1).

Table 3.1: Real annual growth rates of GDP, investment, exports of China and foreign direct investment (FDI) in China (in percentage):

	1979-1990	1990-2000	2000-2005	2005-2007
GDP	9.1	9.9	9.6	10.9
Gross capital formation	8.2	9.8	13.2	12.3
Exports	7.4	13.6	24.4	22.0
Nominal FDI	31.05	37.98	6.81	39.8

Source: author's summary based on data from World Bank, 2006a, p. 7, table 1; World Bank, 2008, p. 10, table 2; International Monetary Fund, 2008b, p. 4, Table 1.1.

China is one of the countries with the most ancient civilization and enjoyed long-term prosperity in the history. For a considerably long period, China was the most economically

advanced country in the world. According to the calculation by Maddison, China's GDP was one-third of the world total in 1820 (cf. Maddison, 2001, pp. 263-264). The economic position of China dropped drastically from 1820 onwards and rose again since Deng Xiaoping started reforms in 1978 (cf. Hu, 2007, p. 12).

China was ready for an economic takeoff at the beginning of the 1980s. Since then, the average annual growth rate of China's GDP is nearly 10 percent, far higher than the world average. In the 1980s, the world average annual aggregate growth rate of GDP was 3.3 percent (cf. Hu, 2007, p. 13); in the 1990s, it was 2.9 percent and from 2000 to 2005 it was 2.8 percent (World Bank, 2007, p. 190). Calculated by PPP (Purchasing Power Parity), China's GDP in 2007 was 10.8 percent of the world total and ranked second, just behind the United States (see Table 3.2). We should note that Purchasing Power Parity is an indicator of welfare and can be seen as economic or even political power (cf. Siebert, 2006, p. 274).

Table 3.2: The top ten economies of the world in 2007 (GDP calculated by PPP)

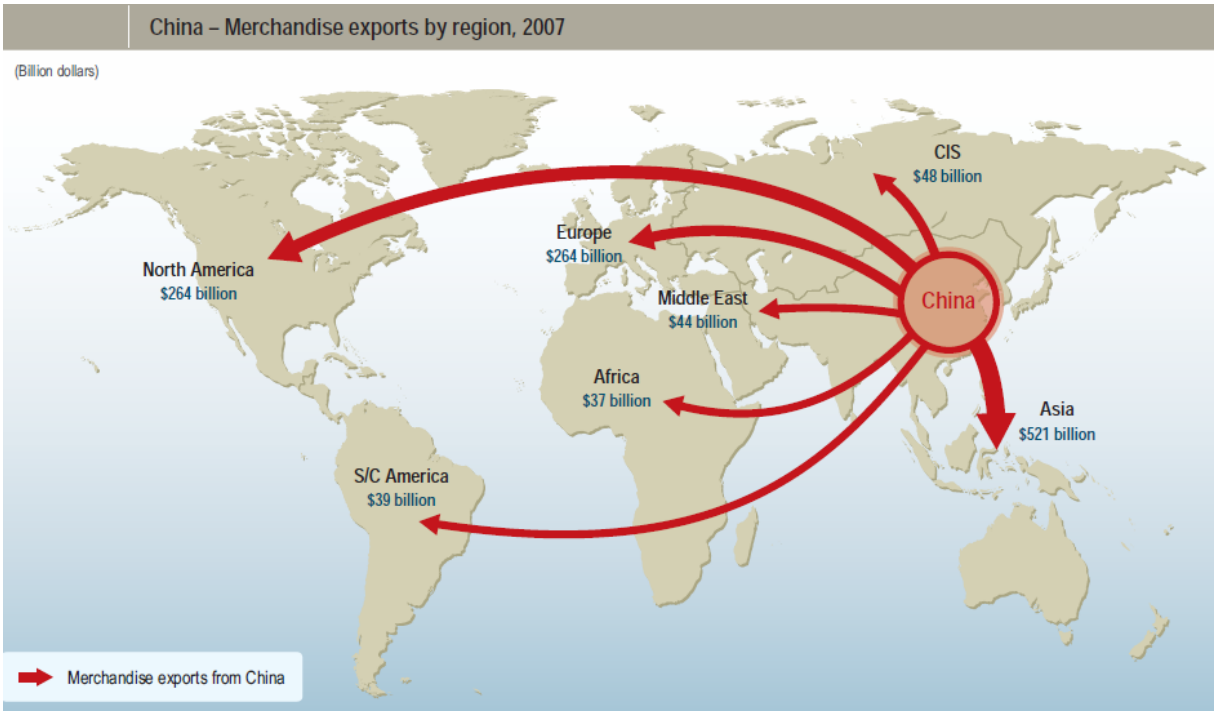
Ranking	Economy	GDP, by PPP (Millions of international Dollars)	Share in World GDP
1	United States	13,811,200	21.1
2	China	7,055,079	10.8
3	Japan	4,283,529	6.6
4	India	3,092,126	4.7
5	Germany	2,727,514	4.2
6	Russian Federation	2,088,207	3.2
7	France	2,061,884	3.2
8	United Kingdom	2,046,780	3.1
9	Brazil	1,833,601	2.8
10	Italy	1,777,353	2.7
	World	**65,435,067**	**100**

Source: World Bank, 2007, p. 190, Table 4.1.

Since China jointed the WTO in 2001, it has almost quadrupled its merchandise exports while imports have more than tripled. In 2007, its trade surplus reached 262 billion USD (cf. WTO, 2008, p. 5). Approximately 45 percent of its trade receipts came from Asia, while Europe and North America each received 21 percent of China's exports (see Figure 3.1).

In 2007, China exported 1,217.8 billion USD worth of goods and ranked second of the world, 121.7 billion USD worth of services and ranked seventh of the world; the value of import goods to China was 956.0 billion USD and ranked third of the world, the value of import services to China was 129.3 billion USD and ranked fifth of the world (see Table 3.3 and Table 3.4).

Figure 3.1 China – Merchandise exports by region, 2007



Source: WTO, 2008, p.5, Figure I.8.

From 1980 to 2007, GDP per capita in China has increased from 313 to 2,483 USD, almost 8 times (see Table 3.5). Rising material living standards is nearly synonymous with rising real per capita GDP, which is calculated by dividing real GDP by the population of the country. The level and changes of real per capita GDP are widely used to measure economic performance (cf. OECD, 2008, p. 40).

Table 3.3: The top ten exporters and importers in world merchandise trade, 2007 (Billion dollars and percentage)

	Exporters	Value	Share of the world	Annual change		Importers	Value	Share of the world	Annual change
1	Germany	1326	9.5	20	1	US	2020	14.2	5
2	China	1218	8.7	26	2	Germany	1059	7.4	17
3	US	1163	8.3	12	3	China	956	6.7	21
4	Japan	713	5.1	10	4	Japan	621	4.4	7
5	France	553	4.0	12	5	UK	620	4.4	3
6	Nether-lands	551	4.0	19	6	France	615	4.3	14
7	Italy	491	3.5	18	7	Italy	505	3.5	14
8	UK	438	3.1	-2	8	Nether-lands	492	3.5	18
9	Belgium	431	3.1	17	9	Belgium	413	2.9	17
10	Canada	419	3.0	8	10	Canada	390	2.7	9

Source: WTO, 2008, p.12, Table I.8.

Over the past thirty years the rapid development made tremendous changes in China. The enormous increase in output represents one of the most sustained and rapid economic transformations seen in the world economy in the past 50 years. It has delivered higher incomes and a substantial reduction of those living in absolute poverty (cf. OECD, 2005, p. 16). The world witnessed a very fast economic growth, the accelerated speed of industrialization and urbanization, and the acceleration of world economic globalization. Unprecedented achievement also took place in methods of production, ways of living and ways of thinking, a situation that has never been seen for thousands of years (cf. Hu, 2007, pp. 14-15).

Table 3.4: The top ten exporters and importers in world trade in commercial services, 2007 (Billion dollars and percentage)

	Exporters	Value	Share of the world	Annual change		Importers	Value	Share of the world	Annual change
1	US	456	13.9	15	1	US	336	10.9	9
2	UK	273	8.3	18	2	Germany	251	8.1	15
3	Germany	206	6.3	15	3	UK	194	6.3	13
4	France	137	4.2	16	4	Japan	149	4.8	11
5	Spain	128	3.9	21	5	China	129	4.2	29
6	Japan	127	3.9	10	6	France	124	4.0	16
7	China	122	3.7	33	7	Italy	118	3.8	21
8	Italy	111	3.4	13	8	Spain	98	3.2	26
9	India	90	2.7	20	9	Ireland	95	3.1	20
10	Ireland	89	2.7	30	10	Nether-lands	87	2.8	10

Source: WTO, 2008, p. 14, Table I.10.

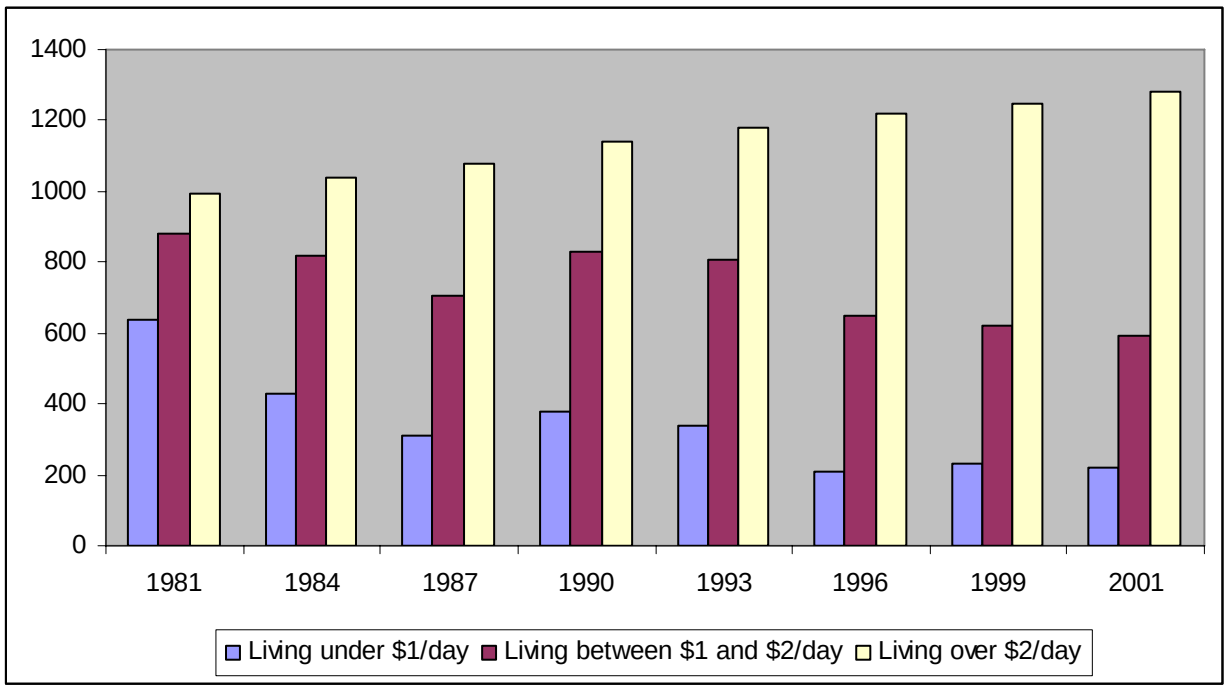
With respect to poverty reduction, China has made progress in getting over the 2 USD per day line. China's poverty rate fell from 88 percent in 1981 to 47 percent in 2001. This was sufficient to bring down the number of impoverished population from 876 million to 594 million. As we can see in Figure 3.2, both the numbers of people in China living between 1 and 2 USD per day and the people living over 2 USD per day have risen over these two decades (cf. Ravallion, Chen, 2004, p. 12).

Table 3.5: Comparisons of the GDP per capita[2] of the five major economies

Country	1980	1990	Percentage change 1980-1990	2000	Percentage change 1990-2000	2007	Percentage change 2000-2007
China	313.321	341.353	9.0	945.597	177.0	2,483.038	162.6
Germany	10,749.605	19,592.736	8.2	23,168.072	18.3	40,400.402	74.4
India	255.03	364.721	4.3	441.501	21.1	941.557	113.3
Japan	9,073.937	24,559.780	170.7	36,810.985	49.9	34,296.061	-6.8
United States	12,255.081	23,207.898	89.4	34,773.783	49.8	45,725.348	31.5

Source: International Monetary Fund, 2008a.

Figure 3.2: Population of China by poverty status



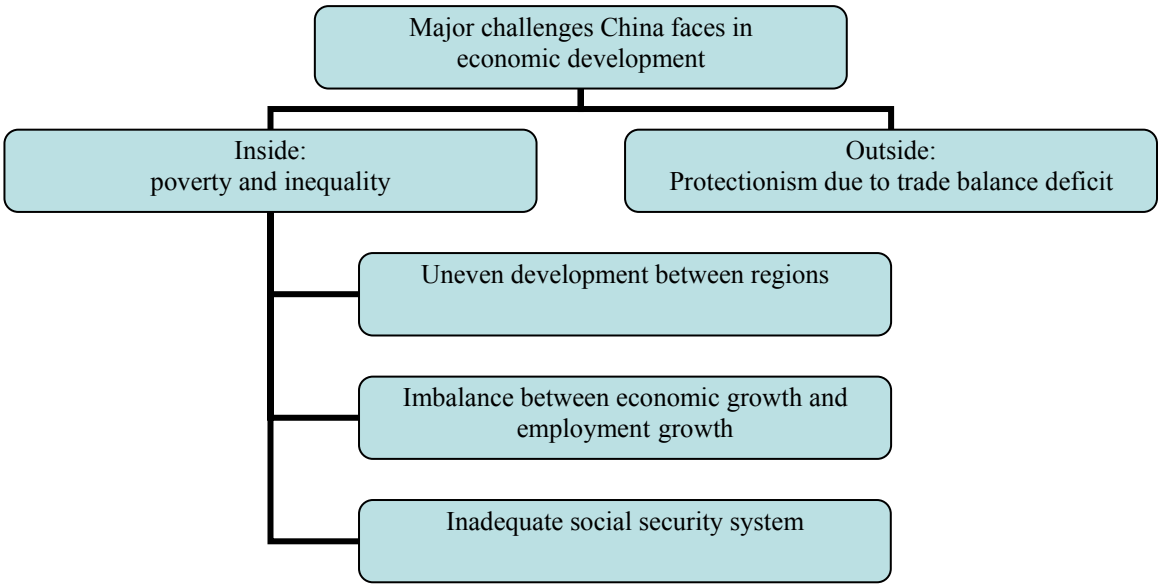
Source: Ravallion, Chen, 2004, p. 49, Figure 3.

[2] GDP per capita is expressed in current U.S. dollars per person. Data are derived by first converting GDP in national currency to U.S. dollars and then dividing it by total population.

4. Some Major Challenges China Faces in Economic Development

In spite of all kinds of progress China made in its development, which can be called "the China miracle", many economists wonder whether or not China's development can be sustained. What are the major challenges or obstacles for China's sustainable development in the next decades? In February 2004, China's Premier Wen Jiabao pointed out that China has achieved rapid economic development but also accumulated critical problems, including the urban/rural gap, regional disparity and inequality of income distribution. These gaps are continuing to enlarge; the pressure of employment and social security is mounting; public services are lagging behind; the conflict between population growth and economic development on one hand and environment and natural resources on the other has been increasing; the quality of the economy as a whole is not high and lacks competitiveness. Therefore, Wen Jiabao put forth an approach of "putting people first" in order to ensure a sustainable development (cf. Hu, 2007, p. 29). Apparently China realizes that only GDP growth is not enough and the quality of the economy must be taken into consideration. Generally, China is facing following major challenges (Figure 4.1):

Figure 4.1 Major challenges China faces in economic development



Source: author's summary based on resources from Hu, 2007, pp. 26-32, Lin, 2003, pp. 223-231, Naughton, 2007, pp. 212-221

4.1 Poverty and Inequality

The great achievement in development does not mean that the poverty-related threat of social instability confronting China could be neglected; in 2006 China published its "Resolution on Building a Harmonious Society" and started to allocate increasingly more public resources to support measures towards this goal. The first two principles of this resolution are coordinated development and social equity and justice (cf. State Council Information Office of the People's Republic of China, 2006).

The main reasons for this campaign might be: the income gaps among regions, sectors, and especially between urban and rural areas are widening despite rapid reduction in the number of people living under extreme poverty; and the common-used criterion in measuring poverty, i.e., the rate of poverty incidence, is not sufficient to reveal the true relation between social tension and poverty status (cf. Zhong, Liu, Miao, 2007, p. 2). China's Premier Wen Jiabao said in 2010 that China has more than 40 million of population living in absolute poverty and 270 million of low-income population (Permanent Mission of China to the UN Office in Switzerland, 2010).

Table 4.1 Key indicators of inequality and poverty in China

	1988	1995	2002
China as a whole			
Inequality of disposable household income per capita, Gini coefficient[3]	0.395	0.469	0.468 Including migrants, 0.448
Ratio of urban to rural disposable household income per capita	2.69:1	3.08:1	3.13:1 Including migrants, 2.77:1
Contribution of urban-rural income gap to national income inequality (%)	36.6	41.0	46.1
Inequality in household wealth per capita, Gini coefficient	n.a.	n.a.	0.550

[3] For the particulars of Gini coefficient, please refer to chapter 5.2.1, especially Figure 5.6.

Rural China			
Inequality in disposable household income per capita, Gini coefficient	0.325	0.364	0.365
Inequality in disposable household income per capita among the elderly, Gini coefficient	0.248	0.326	0.302
Inequality in household wealth per capita, Gini coefficient	0.311	0.351	0.399
Poverty rate (% poor)			
Lower poverty line	n.a.	12.8	4.4
Higher poverty line	n.a.	28.6	12.3
Urban China			
Inequality in disposable household income per capita, Gini coefficient	0.244	0.339	0.322 Including migrants 0.338
Inequality of hourly wage earnings per worker, Gini coefficient	n.a.	0.325	0.370
Female mean income as a share of male mean income	n.a.	0.81	0.76
Inequality in household wealth per capita, Gini coefficient	n.a.	n.a.	0.475
Poverty rate (% poor)			
Lower poverty line	n.a.	2.7	0.8
Higher poverty line	n.a.	8.0	2.2
Higher poverty line, including migrants	n.a.	n.a.	4.4
Poverty rate, migrants only (% poor)			
Lower poverty line	n.a.	n.a.	5.5
Higher poverty line	n.a.	n.a.	14.4

Source: Björn, Li, Terry , 2008, p. 19, Table 1.2.

According to the key indicators of inequality and poverty in China which are shown in Table 4.1, inequality in China has been rising in the last two decades, in spite of the

booming economy as a whole in the same period. Three key aspects will be discussed: uneven development, imbalance between economic growth and employment growth, and inadequate social security system.

4.1.1 Uneven development between regions

The regional inequality, especially the urban/rural gap has become one of the biggest challenges to China's further development. It is also the most important institutional obstacle to improving productivity and social progress. The urban/rural gap can be classified in four groups: (1) income gap; (2) consumer spending gap; (3) public service gap: a large number of poorly educated people live in the rural areas, especially in the rural areas of the western part of China. There are huge gaps between urban and rural areas in terms of the distribution of educational resources, public health resources, medical insurance coverage, telecom and postal services; (4) labour productivity gap: the proportion of agricultural labour productivity to national average labour productivity has dropped. The proportion of per capita income of peasants to per capita GDP and the proportion of peasants' income from farming to their total income has also declined (cf. Hu, 2007, p. 26). This chapter discusses only the first two points. The point (3) and (4) will be discussed in chapter 6.

Table 4.2 Income and expenditure of Chinese households (yuan)

Income and Expenditure	**1990**	**2000**	**2005**	**2006**
Annual per capita disposable income of urban households	1510	6280	10493	11759
Annual per capita net income of rural households	686	2253	3255	3587
Annual per capita consumption expenditure of urban households	1279	4998	7943	8697
Annual per capita living expenditure of rural households	585	1670	2555	2829
Per capita balance of saving deposit	623	5076	10787	12293

Source: China Statistical Yearbook 2007 CD-ROM, 2007, table 10-1.

We can read the income and consumer spending gaps between urban and rural Chinese households in Table 4.2. In 1990 the average income and consumption of urban households were both 2.2 times of that of rural households; however, in 2006 these ratios were 3.3 times and 3.1 times respectively. This means, in the period of 1990-2006, the income and consumption gaps between urban and rural households have widened 50 percent and 41 percent respectively.

The Table 4.3 shows us die income difference between sectors. The incomes in the manufacturing sector and the production and energy sector, in which the most export products are produced, are substantially better than that in the agricultural sector (approx. two times and three times respectively).

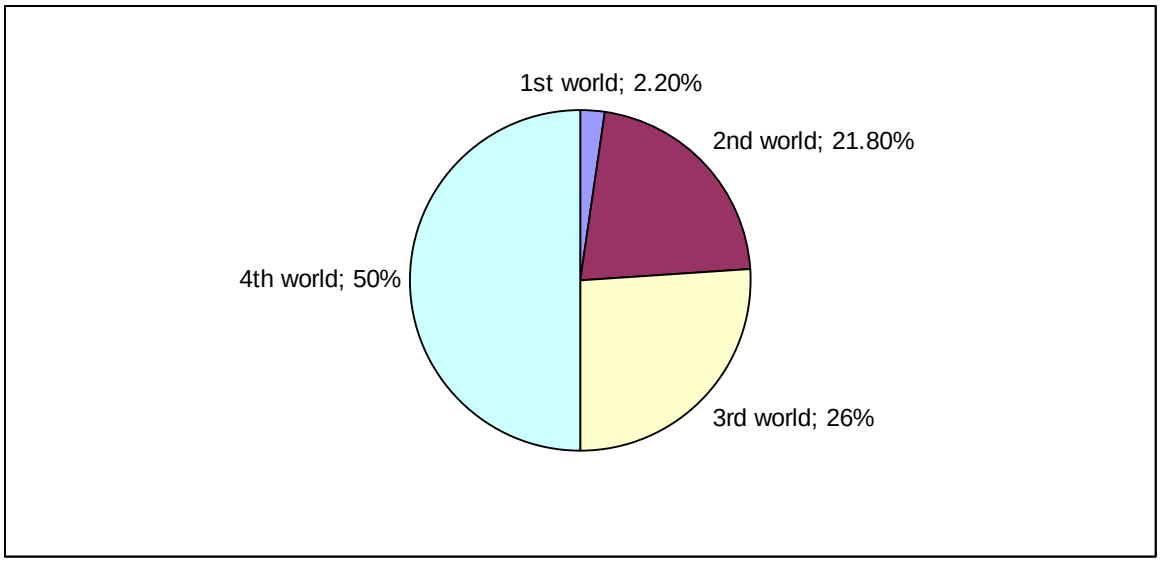
Table 4.3 Average earning of employees in some selected sectors (yuan)

Year	Agriculture	Manufacturing	Production and energy	Construction	Scientific research	Education
2003	6884	12671	18574	11328	20442	14189
2004	7497	14251	21543	12578	23351	16085
2005	8207	15934	24750	14112	27155	18259
2006	9269	18225	28424	16164	31644	20918

Source: China Statistical Yearbook 2007 CD-ROM, 2007, table 5-20.

Furthermore, China is one of the countries with the biggest regional disparities in the world and it is known as “one China, four worlds” (see Figure 4.2) The first world covers high-income areas and its population accounts for 2.2 percent of the national total; the second world covers middle-income areas with a population accounting for 21.8 percent of the national total; the third world refers to lower middle income areas, with a population accounting for 26 percent of the national total; and the fourth world refers to low income areas, mainly poor areas in the middle and western parts of the country, with a population accounting for 50 percent of the national total (cf. Hu, 2007, pp. 26-27).

Figure 4.2 “One China, four worlds” – Regional disparities in China



Source: author’s summary based on data from Hu, 2007, pp. 26-27.

Table 4.4 Average yearly earning of employees in some selected regions, 2006

Region	Average Earning (yuan)
Beijing	39,684
Shanghai	37,585
Guangdong	26,400
Sichuan	17,612
Guangxi	17,571
Hunan	17,400
Gansu	16,991
Shaanxi	16,646
Heilongjiang	15,894
Hubei	15,779
Jiangxi	15,370

Source: author’s summarisation, with data from China Statistical Yearbook 2007 CD-ROM, 2007, table 5-20.

The average earnings in Beijing and Shanghai, two of the wealthiest regions in China, amount 2.6 and 2.5 times of that in Jiangxi, one of the poorest regions (Table 4.4). Large income gap exists not only between rural and urban areas, but also between big cities.

Table 4.5 Poverty measures and poverty line in China, 1985-2005 (percentage)

Year	Poverty incidence	Poverty depth	Poverty severity	Poverty line (yuan, adjusted by CPI[4])
1985	13.84	23.89	13.05	206
1986	15.38	23.77	10.11	219
1987	13.86	23.49	9.79	232
1988	15.17	24.28	9.39	273
1989	19.42	26.49	10.86	325
1990	13.39	23.52	8.92	340
1991	14.67	25.84	10.61	348
1992	12.74	25.15	10.16	364
1993	12.62	27.03	11.69	414
1994	10.66	27.41	12.03	511
1995	9.08	27.76	12.61	600
1996	5.74	25.73	11.35	648
1997	5.46	27.51	12.91	664
1998	4.50	27.11	12.86	657
1999	4.46	26.49	12.23	648
2000	5.46	30.53	15.65	647
2001	5.36	31.72	17.36	652
2002	4.79	30.85	16.68	649
2003	5.04	32.71	18.32	660
2004	4.17	32.16	18.11	692
2005	4.01	38.16	24.94	707

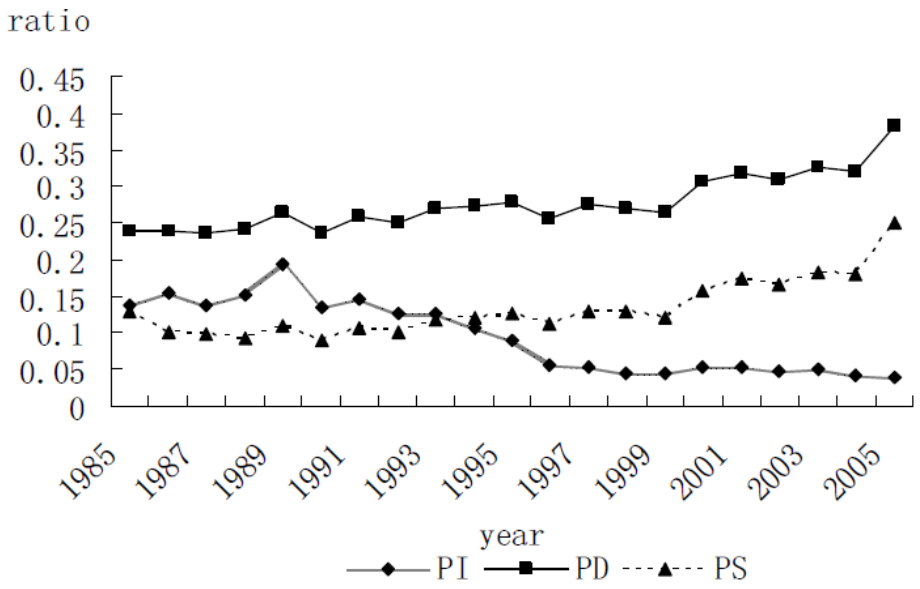
Source: Zhong, Liu, Miao, 2007, Table 1.

[4] Consumer price index (CPI) is an index that measures changes in the prices of goods and services purchased or otherwise acquired by households. It can be used to identify periods of economic inflation or deflation (cf. Turvey, 2004, p. 1; cf. Fontanills, 2005, p. 539).

About half of the population is still in the low income group. The per capita national income shows that China has already reached the level of a well-off society, that is, the lower-middle income level in the world. But the distribution is extremely uneven (cf. Hu, 2007, pp. 27).

For estimating poverty, three measures are most commonly used: poverty incidence, poverty depth and poverty severity. Poverty incidence is the share of the population whose income or consumption is below the poverty line, in other words, the share of the population that can not afford to buy the goods for basic necessities of life. Poverty depth provides information regarding how far off households are from the poverty line. It is obtained by adding up all the shortfalls of the poor (the non-poor has a shortfall of zero) and dividing the total by the population. Poverty severity takes into account not only the distance separating the poor from the poverty line (the poverty gap), but also the inequality among the poor (cf. World Bank, 2009b). The first index reflects the scale of poverty population, compared with total population in a region. The other two indexes reveal the status of poverty population, in terms of average level of poverty in relation to poverty line, and income distribution among the poverty population, respectively (cf. Zhong, Liu, Miao, 2007, p. 9).

Figure 4.3 Trends of the poverty measures



Source: Zhong, Liu, Miao, 2007, p. 7, Figure 3.

Table 4.5 shows us the poverty measures and poverty line in China from 1985 to 2005. Poverty incidence, poverty depth and poverty severity, the three most crucial and complementary indicators of poverty measures, are demonstrated. A government may choose poverty alleviation measures based on its preference. Poverty depth and poverty severity will probably increase by adopting some policies aimed at reducing poverty incidence (cf. Zhong, Liu, Miao, 2007, p. 9).

As shown in Table 4.5 and Figure 4.3, during 1985 to 2005 the poverty incidence declined from 13.84 percent to 4.01 percent; however, both poverty depth and poverty severity have increased, from 23.89 percent to 38.16 percent and from 13.05 percent to 24.94 percent, respectively. It is very crucial to notice that while the scale of poverty reduced, the degree of poverty and poverty inequality aggravated, especially since 2000. Meanwhile, we notice that during 1990 to 1996, poverty incidence quickly dropped, and changed more slowly in the years after 1996 (cf. Zhong, Liu, Miao, 2007, pp. 6-7).

4.1.2 Imbalance between economic growth and employment growth

China has the largest population in the world, and also the largest working population. In 2005, the working-age population (15-64) of China was 926 million, 22.3 percent of the world total (World Bank, 2006b, table 2.1). China is the country with abundant labour, but also a country with the biggest employment pressures. In the 1990s, China's economic growth pattern began to transit from high employment growth to low employment growth, with the per capita capital output assuming a downward trend (cf. Hu, 2007, p. 29).

Unemployment has become a serious problem in China since the beginning of the economic reform and open door policy. From 1993 to 2003, an official count of 28.18 million state enterprise workers were laid off (cf. Naughton, 2007, pp. 185-186). Table 4.6 shows us the official data of employment in China in recent years. The number of registered unemployed persons in urban areas has been rising, one of the most important determinants was the migration of the labour force from rural areas to the urban areas which resulted in labour surplus in the cities (see also Figure 4.4).

According to the statistics of Ministry of Labour and Social Security of China, total unemployment (the sum of unemployed and laid-off workers) peaked in 1997, and then stayed very high through 2002 with over 14 million people unemployed (cf. Ministry of Labour and Social Security, 2004, p. 478). Barry Naughton estimated in his book *The Chinese Economy: Transitions and Growth* that the unemployment rate peaked at 8 percent

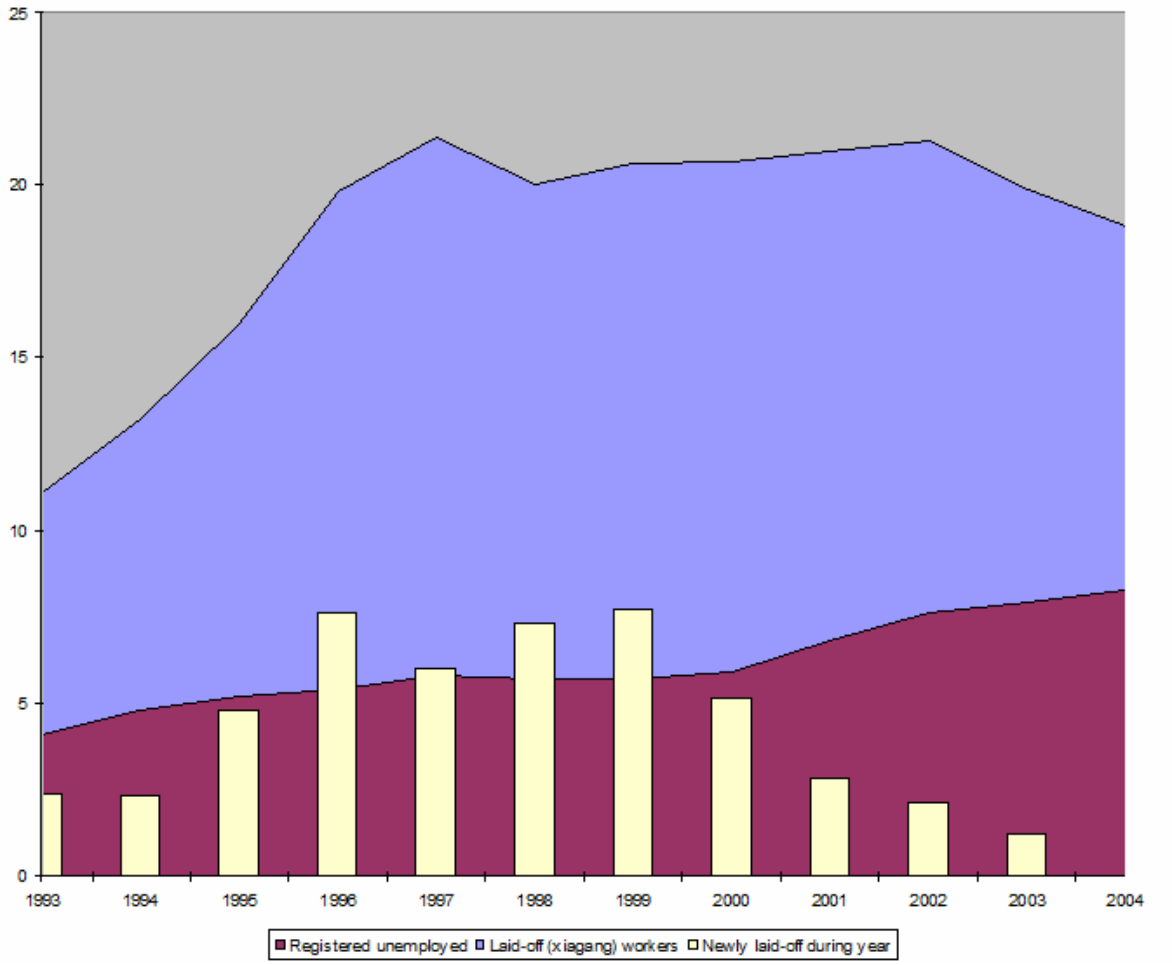
– 10 percent in 1997, much higher than the 3 percent official unemployment rate calculated by the Ministry of Labour and Social Security (cf. Ministry of Labour and Social Security, 2004, p. 478), because the laid-off workers, who could obtain the transitional assistance and support from the Reemployment Centres for several years, were usually not ranked as unemployed officially. After 2002, China's economic boom finally began to bring down the number of unemployed substantially. At the end of 2004, according to labour yearbook by the Ministry, there were still 10 million unemployed in urban China, including 8.3 million registered unemployed and over 2 million laid-off workers (cf. Naughton, 2007, pp. 186-188). The trend of the registered unemployed workers and laid-off workers can be seen in Figure 4.4.

Table 4.6 Employment in China

	2002	2003	2004	2005	2006
Economically active population (10,000 persons)	75,360	76,075	76,823	77,877	78,244
Total number of employed persons (10,000 persons)	73,740	74,432	75,200	75,825	76,400
Urban employed persons	24,780	25,639	26,476	27,331	28,310
Rural employed persons	48,960	48,793	48,724	48,494	48,090
Number of staff and workers (10,000 persons)	10,558	10,492	10,576	10,850	11,161
State-owned units	6,924	6,621	6,438	6,232	6,170
Urban collective-owned units	1,071	951	851	769	726
Units of other types of ownership	2,563	2,920	3,287	3,849	4,264
Number of registered unemployed persons in urban areas (10,000 persons)	770	800	827	839	847
Registered unemployment rate in urban areas (%)	4.0	4.3	4.2	4.2	4.1

Source: China Statistical Yearbook 2007 CD-ROM, 2007, table 5-1.

Figure 4.4 Laid-off and unemployed workers in China 1993 - 2004



Source: Naughton, 2007, p. 187, Figure 8.2.

Table 4.7 Unemployment rate of China

	2001	2002	2003	2004	2005	2006	2007	2008
Level - registered (Millions)	6.9	7.7	8.0	8.3	8.4	n.a.	n.a.	n.a.
Rate - registered in urban (%)	3.6	4.0	4.3	4.2	4.2	4.0	4.1	4.2
EIU estimates (average in %)	n.a.	n.a.	n.a.	9.9	9.0	9.5	9.2	9.2

Source: Embassy of Switzerland, 2007, p. 14, Table Essential Economic Data; Embassy of Switzerland, 2009, p. 13, Table Essential Economic Data.

As shown in Table 4.7, according to the estimation of Economist Intelligence Unit (EIU), if we take the laid-off workers into account, the unemployment rate of China in recent years was in fact always close to 10 percent, more than doubled as the officially registered data. The global financial crisis brought challenges to global employment and also hurt China hard who has been facing serious employment difficulties since many years. China's labour minister, Yin Weimin, said in September 2009 that although the number of jobs in the second quarter of 2009 had a modest increase, the unemployment situation remained "grave" (cf. Dyer, 2009; U.S.-China Commission, 2009, p. 39).

As he met with the overseas delegates attending the 2010 annual meeting of China Development Forum in Peking, China's Premier Wen Jiabao said that the 2 million unemployed citizens make the US government very upset, but China faces the unemployment pressure of 200 million (cf. Permanent Mission of China to the UN Office in Switzerland, 2010). According to the estimation of International Labour Organization (ILO), China has labour force of 812.7 million in 2010 (cf. International Labour Organization, 2010). Thus, China has in fact an unemployment rate of 24.6 percent.

4.1.3 Inadequate social security system

All the rapid demographic and institutional changes in China over the past 30 years come together to intensify the burden of social security. The combination of early retirement, generous pensions and increasing elderly dependency rates will create serious economic challenges for China in the coming years, if China fails to establish a suitable social security system with sufficient coverage (cf. Naughton, 2007, p. 203).

Under the old system, urban employees routinely enjoyed social security financed by their employers called work units. But as China has moved toward a market economy, the entire social security system has been moved out of the work unit's control and shifted to a national social program administered by government agencies. But the progress has been very uneven. Creating an effective social insurance network is particularly important in China for the following reasons:

1. Urban workers are accustomed to a pension system; social security must reach a minimum level to match expectations and ensure political stability. (Social insurance for rural workers will be discussed in chapter 7)

2. Due to the one-child family policy China will face population aging with unprecedented speed and at a low level of per capita income. After 2020 the share of the elderly population will grow very fast.

3. The financial base of the traditional social security system – the state owned enterprises (SOE) and government employers – has been shrinking rapidly, and the growing sectors of the urban economy are often outside the scope of existing social security mechanisms.

Table 4.8 Basic statistics on social security in China

	1990	2000	2005	2006
Number of employee joining basic pension insurance (10,000 persons)	6,166	13,617	17,488	18,766
Number of employees joining basic endowment insurance (10,000 persons)	5,201	10,447	13,120	14,131
Number of retirees joining basic endowment insurance (10,000 persons)	965	3,170	4,368	4,635
Number of persons joining basic medical care system (10,000 persons)	n.a.	3,787	13,783	15,732
Number of employees joining unemployment insurance (10,000 persons)	n.a.	10,408	10,648	11,187
Number of employees joining injury insurance (10,000 persons)	n.a.	4,350	8,478	10,268
Number of persons joining maternity insurance (10,000 persons)	n.a.	3,002	5,408	6,459
Revenue of social insurance fund (100 million yuan)	187	2,645	6,975	8,643

Source: China Statistical Yearbook 2007 CD-ROM, 2007, table 10-1.

4. The downsizing of the SOE created a large number of relatively young retired people, and some state workers in their 50s must retire because there was no more work for them (cf. Naughton, 2007, pp. 202-203).

Currently only urban residents (generally employees of government agencies or SOEs) are offered public pension benefits and health insurance. The majority of the population in the rural areas is not covered (cf. Naughton, 2007, p. 205).

In Table 4.8 we can see the progress China made in social security system as well as the challenges. The total number of employed persons in China in 2006 was 764 million (cf. China Statistical Yearbook 2007 CD-ROM, 2007, table 5-1). 24.6 percent of them joined basic pension insurance, 20.6 percent of them joined basic medical care system, 14.6 percent of them were covered by unemployment insurance and 13.4 percent of them by injury insurance (author's calculation, with data from China Statistical Yearbook 2007 CD-ROM, 2007, table 5-1, table 10-1).

4.2 The Increasing Protectionism of the West

China's current account in the balance of payments has shown a clear upward trend since 1994, reaching 184 billion USD in 2006 or 9 percent of GDP. Because of the large foreign direct investment (FDI) inflows and capital controls on outflows, China's capital account is also in persistent surplus. The result is that China's foreign exchange reserves reached 1.07 trillion USD in December 2006 and 1.95 trillion in December 2008, the largest in the world (cf. Woo, Xiao, 2007, p. 45; State Administration of Foreign Exchange, 2008). According to an announcement of the U.S. Treasury Department, China became the largest holder of U.S. Treasury securities in September 2008, holding as much as 585 billion USD, more than Japan, which holds 573 billion USD worth. This new status means, China now owns nearly 1 USD out of every 10 in U.S. public debt (cf. Faiola, Goldfarb, 2008).

According to the World Bank, the U.S. current account deficit is financed largely by China's current account surplus and growing investments by major oil exporters. China is now one of the top 10 economies with the largest reserves holdings (see Table 4.9). Reserves of China accounted for 18 percent of the world total in 2005 (cf. World Bank, 2007, p. 187).

Trade surpluses allow many developing countries to accumulate large holdings of reserve assets over the past years. One of motives may be the desire to maintain larger precautionary reserves to protect against financial and balance of payments crises. Indeed, the globalization of financial transactions may have made countries with open capital accounts more vulnerable (cf. World Bank, 2007, p. 187).

Table 4.9 Top 10 economies with largest reserves

	International reserves (USD billions)		Share of the world total 2005 (percent)	Increase over 2004 (percent)	Reserves 2005 (months of import coverage)
Economy	2004	2005			
Japan	844.7	846.9	18	0.3	16
China	622.9	831.4	18	33.5	14
Taiwan, China	247.7	260.3	6	5.1	14
Korea	199.2	210.6	5	5.7	8
United States	190.5	188.3	4	-1.2	1
Russian Federation	126.3	182.3	4	44.4	11
India	131.6	137.8	3	4.7	12
Hongkong, China	123.6	124.3	3	0.6	4
Singapore	112.2	115.8	3	3.2	5
Germany	97.2	101.7	2	4.6	1

Source: World Bank, 2007, p. 187, table 4f.

Table 4.10 US trade with China: 2003 – 2007 (millions of USD)

Year	Exports	Imports	Balance
2003	28,367.9	152,436.1	-124,068.2
2004	34,744.1	196,682.0	-161,938.0
2005	41,925.3	243,470.1	-201,544.8
2006	55,185.7	287,774.4	-232,588.6
2007	65,236.1	321,442.9	-256,206.7

Source: U.S. Census Bureau, 2008.

Table 4.10 shows us that both imports and exports of the US-China bilateral trade increased very fast between 2003 and 2007. The balance deficit of the US with China in 2007 has more than doubled than that in 2003.

Table 4.11 European Union trade with China: 2003 – 2007 (millions of Euro)

Year	Imports	Exports	Balance
2003	106,221	41,473	-64,748
2004	128,692	48,376	-80,316
2005	160,327	51,825	-108,502
2006	194,835	63,784	-131,105
2007	231,516	71,757	-159,759

Source: European Commission, 2008.

The European Union and China are two of the largest traders in the world. Table 4.11 shows us, the EU-China bilateral trade increased by 17 percent in 2007; and it has more than doubled between 2003 and 2007. The EU-China trade balance deficit in 2007 was almost 2.5 times that of 2003.

The constantly increasing China-US bilateral trade surplus and the China-EU bilateral trade surplus caused great debate on China's trading practices (deemed as unfair by the West) and the undervaluation of the yuan. EU and US are trying to take actions to intervene in the matter. In February 2007, the United States Trade Representative (USTR) reported to the World Trade Organization (WTO) against prohibited subsidies in China. This action was followed by two other WTO cases against China in April 2007, one of them was challenging market access restrictions on products of copyright-intensive industries, and the other was challenging weaknesses in legal regime for protection and enforcement of copyrights and trademarks. Similar actions have been made continuously. Peter Mandelson, the EU trade commissioner, called various aspects of China's trade policy "illogical", "indefensible" and "unacceptable" and accused China of doing nothing to rein in rampant counterfeiting (cf. Woo, Xiao, 2007, pp. 45-46). From the US side, on 14th June 2007, Senators Max Baucus (Democrat from Montana), Charles E. Grassley (Republican from Iowa), Charles E. Schumer (Democrat from New York) and Lindsey Graham (Republican from South Carolina) introduced legislation to punish China if it did

not stop intervening in currency markets to keep the exchange value of the Chinese currency, the renminbi, low in order to favour its export sectors (cf. Woo, Xiao, 2007, p. 47).

The gradually enlarged trade deficit may cause protectionism. Stanley Crossick, director and founding chairman of the European Policy Centre, said that the protectionist politicians in the West already pointed out that a large trade deficit is bad and China is taking jobs from Europe (cf. Crossick, 2008).

Irwin pointed out that although free trade is good for the economy as whole, workers will be displaced from their jobs in sectors that compete against imports (cf. Irwin, 2003, p. 100). Imports may destroy plenty of high paying jobs in the United States and European Union.

In a survey conducted in 1999 in US, 63 percent of respondents said the United States would have made a mistake by entering into the free trade agreement and free trade must be a bad idea, because it can lead to lower wages and rising unemployment rate (cf. Kletzer, 2002, p. 143).

Daly argued that free capital mobility totally undermines Ricardo's comparative advantage argument for free trade in goods, because that argument is explicitly and essentially based on capital being immobile between nations. Under the new globalization regime, capital tends simply to flow to wherever costs are lowest – that is, to pursue absolute advantage (cf. Daly, 2007, p. 205).

High trade surplus subjected China's foreign trade policy to greater international pressure. Many countries launched anti-dumping measures against China's rapidly growing exports. Among all of the anti-dumping cases worldwide in 2006, 37 percent saw involvement of Chinese enterprises. Anti-dumping cases launched by European countries and the United States in 2006 affected 8,500 Chinese enterprises and 500,000 employees. Ministry of Commerce of the People's Republic of China is now very busy in dealing with these cases, said the Ex-Minister Bo Xilai (cf. Lan, 2007).

5. Assessment of the Situation

In this chapter, the author starts out by discussing the affecting factors of China's rapid economic growth and then identifies the problems in the development process and their causes. The analysis of the major challenges China faces in development is the central subject of this thesis. Consequences and impacts of the achievements and challenges will also be assessed.

5.1 Assessing the Achievements

China entered the economic takeoff stage around 1980 and maintained high-speed growth for nearly 30 years (cf. Hu, 2007, p. 15). What were the sources of China's economic growth? Which factors determined and affected China's economic growth significantly?

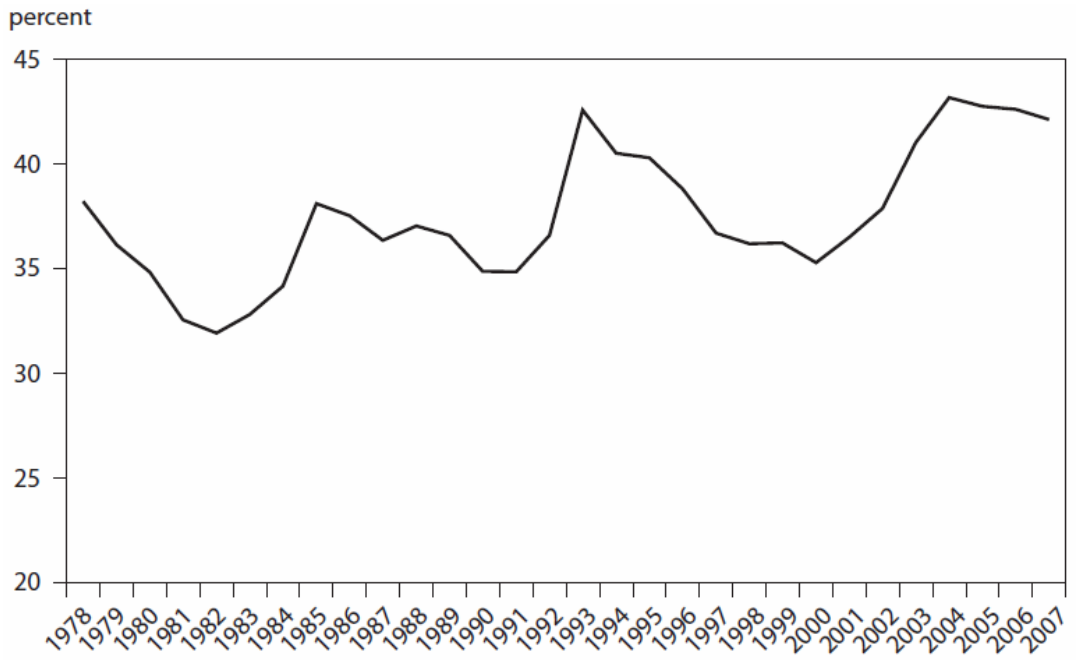
Domestic and foreign studies showed that since reform and opening up to the outside world, the key to higher economic growth might be the surge of total factor productivity (cf. Hu, 2007, pp. 15-16). Total factor productivity (TFP) is a variable which contributes to economic growth (the value may be negative, zero or positive), but which does not directly relate to unit inputs. Examples of TFP are economic policy, the role of government in the economy, attitudes toward work, positive external effects resulting from having an educated work force, technological learning etc. (cf. Dietz, 2003, p. 120). According to the analysis by Hu Angang, an economics professor at Tsinghua University in Peking, there were four major sources of economic growth for China from 1978 to 1995: (1) high-speed growth of labour (2.6 percent); (2) high speed growth of capital stock (9.3 percent); (3) human capital calculated by the average years of education for employment populations above the age of 15 grew at an average annual rate of 2.2 percent; (4) TFP rose from -1.9 percent before reform (1952-1978) to 3.3-4.5 percent, with contribution to economic growth being 33-47 percent (cf. Hu, 2007, p. 16).

GDP can be calculated from the expenditure side as the sum of private consumption, private investment, government expenditure and net exports (cf. Jones, 2001, p.639). Hence the expansion of output is the sum of the change in three components: consumption (both private and government), investment, and net exports of goods and services. All of these factors are playing a role in GDP growth.

5.1.1 Investment

Expanding investment has been a major and increasingly important driver of China's growth. As shown in Figure 5.1, investment averaged 36 percent of GDP in the first decade of economic reform, which was relatively high by the standard of developing countries generally but not in comparison with China's East Asian neighbours such as South Korea and Japan when their investment shares were at their highest. Since the beginning of 1990s, China's average investment rate has been even higher. In 1993 and again in 2004-2007, investment exceeded 40 percent of GDP, a level above the experience of China's East Asian neighbours in their high growth periods (cf. Bergsten, et al., 2008, p. 106; National Bureau of Statistics of China, China Statistical Yearbook 2007, p. 72). Rising investment has been financed by a rise in the national saving rate, which reached an unprecedented level of more than half of GDP in 2006. Rising investment was particularly important in 2001-2005, when on average it contributed over half of China's economic growth (cf. Bergsten, et al., 2008, p. 106; National Bureau of Statistics of China, China Statistical Yearbook 2007, p. 75).

Figure 5.1 Investment as percentage of GDP, 1978-2007



Sources: Bergsten, et al., 2008, p. 107; National Bureau of Statistics of China, China Statistical Yearbook 2007.

The economy is restructured through the increased new capital. New firms are born, new technologies are introduced and new products are produced. Investment together with exports modernizes the economy through learning by doing processes. At the same time, labour productivity is raised. Capital accumulation and total factor productivity growth contribute about 4.5 percentage points to the GDP growth rate of about 10 percent in the early 2000s, with about 1 percentage point coming from employment growth. Rate of profits (or marginal capital productivity) has fallen from 16 percent in the 1990s to 13 percent in 2004. Labour productivity in terms of GDP per worker has increased at an annual average of between 7 and 8 percent in the early 2000s (cf. Siebert, 2006a, pp. 273-299).

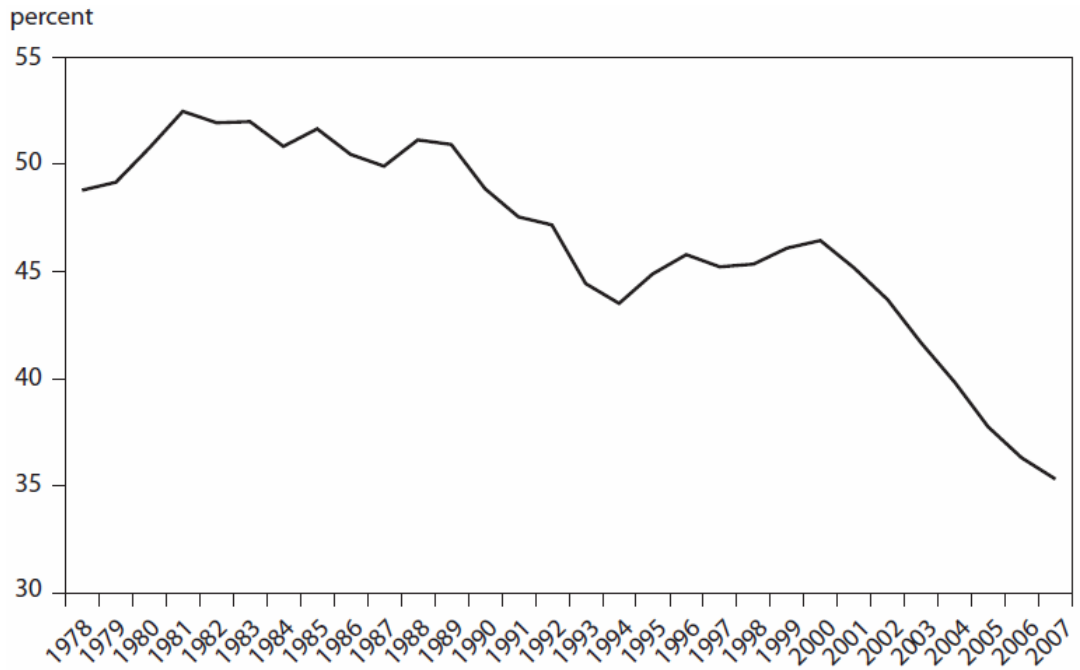
FDI played an important role in China's GDP growth. During the 1990s China became by far the largest recipient of FDI among developing countries. In 1995-2001 China absorbed about 290 billion USD FDI, more than the most OECD countries. By taking the large population of China into account, however, China's FDI per capita was still smaller than that received by any OECD country. One of the main engines of GDP growth over the last 20 years has been fixed investment[5], to which FDI made an increasing contribution, with 17.3 percent in 1994 and 10.6 percent in 2001 (cf. OECD, 2003, pp. 38-49). In 1978, 2000 and 2006, the FDI in China accounted for 10, 110, and 190 million USD respectively, while China's total capital formation were 394, 1,150, and 3,440 million USD respectively. Thus the shares of the FDI in China's total capital formation accounted for 2.5 percent, 9.6 percent and 5.5 percent respectively in these three years (author's calculation, with data from China Statistical Yearbook 2007 CD-ROM, 2007, Table 2-2). Foreign direct investment per capita is a driving force in capital accumulation and per capita GDP growth. The output share of foreign-owned companies is positively correlated with per capita GDP and productivity growth, because FDI is the main source of more efficient production and management techniques from abroad, as well as a more extensive knowledge base. It also introduced competition into the Chinese economy and encouraged local enterprises to allocate available resources more efficiently (cf. Démurger, 2000, pp. 35-36). Very recently China overtook Germany as the world's top exporter (cf. New York Times, 2010).

[5] Fixed investment is the investment in fixed capital, including tangible capital goods (machines and buildings) and the replacement of depreciated capital goods.

5.1.2 Consumption (Private and Government)

Both household and government consumption have grown rapidly in absolute terms throughout the reform period. But in most years, growth of consumption has lagged the growth of the economy. This lag has become particularly noticeable since 2000. Figure 5.2 shows us that in the 1980s household consumption averaged slightly more than half of GDP, and in 1990s this share fell to an average of 46 percent. After 2000, household consumption as share of GDP fell sharply and by 2007 accounted for only 35 percent of GDP. This was the lowest share of any major economy in the world. In the United States, household consumption accounted for 70 percent of GDP in the same year. In the United Kingdom, it was 63 percent, and in India, 56 percent (cf. Bergsten, et al., 2008, pp. 107-109).

Figure 5.2 Household consumption as percentage of GDP, 1978-2007



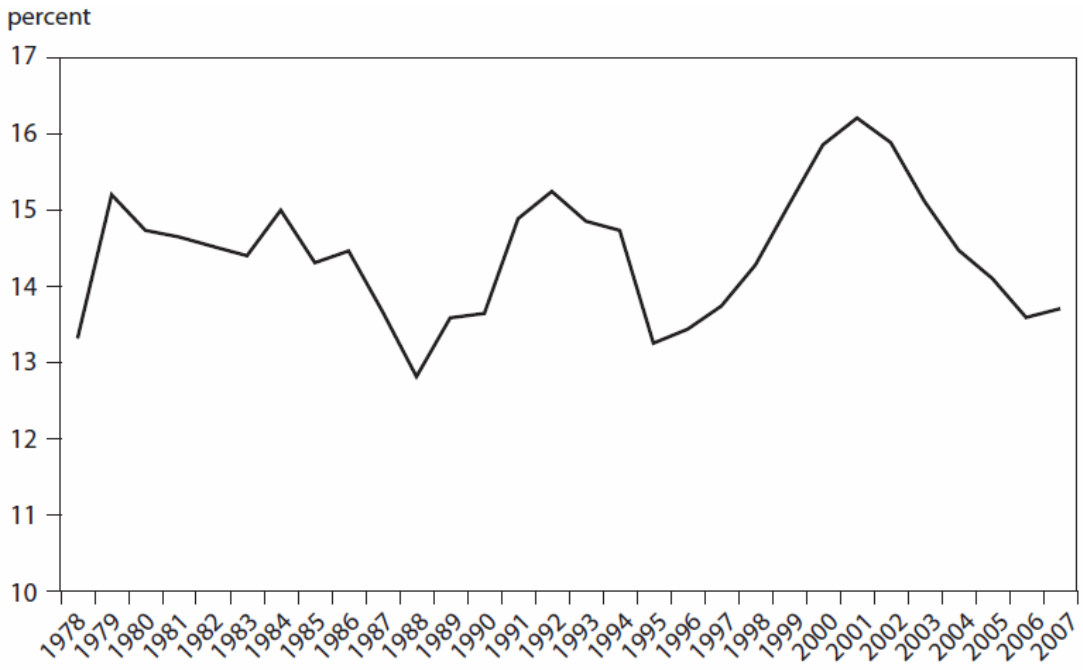
Sources: Bergsten, et al., 2008, p. 107; National Bureau of Statistics of China, China Statistical Yearbook 2007; IS Emerging Markets, CEIC Database.

As shown in Figure 5.3, government consumption as a share of GDP has been relatively stable, averaging around 14 percent throughout the reform period. But it declined

from a peak of about 16 percent of GDP in 2001 to under 14 percent in both 2006 and 2007.

As a result of these trends in household and government consumption, the weight of consumption as a source of growth during the past two decades dropped substantially, particularly compared with that of investment. In the early 1990s, consumption growth accounted for about four-fifths of China's economic expansion, however since 2003, this share has fallen to less than two-fifths (cf. Bergsten, et al., 2008, p. 106).

Figure 5.3 Government consumption as percentage of GDP, 1978-2007



Sources: Bergsten, et al., 2008, p. 108; National Bureau of Statistics of China, China Statistical Yearbook 2007; IS Emerging Markets, CEIC Database.

5.1.3 Export-led Growth

GDP growth of a country can be achieved by increasing foreign demand, i.e. growth of the exports. Let's recall the external employment mechanism, which has been mentioned in chapter 2:

$$Q_e^* = \frac{X}{\pi(b_1 + b_2)} \tag{2-43}$$

The volume of employment and output (Q_e^*) depends not only on the size, but also on the structure of exports. Exporters of labour-intensive industrial goods and services enjoy high levels of employment (cf. Bortis, 1997, p. 191). Most of the exports from China are concentrated on the labour-intensive industrial sectors.

Kaldor pointed out that: "… in relation to a particular trading area such as an individual country, or a particular region within the country, it is the function of external trade to eliminate the discrepancy between the attainable 'product mix' on the supply side, and the required 'product mix' on the side of demand. Each trading area exports these commodities of which it produces a structural surplus and imports those in which it is structurally deficient … the actual output and employment of individual regions or countries and their rate of growth over time, will be limited by their exports and by the imports which can be paid for by those exports. In normal circumstances therefore any difference between the desired 'product mix' on the demand side, and the attainable 'product mix' on the supply side will give rise to a situation, in which exports are the main determining factor in the level of output and effective demand" (Kaldor, 1983, pp. 93-94).

Exports represent an important stimulus to the Chinese economy. As shown in Table 5.1, China's real exports to the world increased by 500 percent between 1992 and 2005, from 84.94 billion to 525.48 billion USD. Its share of exports to the US increased from 10 percent to 21 percent over the sample period. As a result, in 2004, China overtook Japan as the world's third largest exporter, just behind Germany and the United States (cf. Amiti, Freund, 2008, pp. 2-4).

Table 5.1 China's total exports

Year	1992	1995	1997	1999	2001	2003	2005
Total Exports (billion USD)	84.94	136.50	160.34	163.81	211.19	334.53	525.49
Total Processing Exports (billion USD)	39.92	67.92	87.59	93.23	117.04	184.56	287.24
Share of Processing Exports	47%	50%	55%	57%	55%	55%	55%

Source: Amiti, Freund, 2008, p. 18.

Table 5.1 also shows us that the share of processing trade was more and more important in the total exports. Processing trade refers to the business activity of importing all or part of the raw materials, parts and components, accessories, and packaging materials from abroad in bond, and re-exporting the finished products after processing or assembly by enterprises within the producing country. Processing trade includes processing with supplied materials and processing with imported materials. Under processing with supplied materials, the foreign party which supplies materials and parts is also responsible for selling the finished products. The producing enterprise does not have to make foreign exchange payment for the imports and only charges the foreign party a processing fee. Under processing with imported materials, the producing enterprise makes foreign exchange payment for the imported materials and parts, and exports the finished products after processing (cf. HKTDC Research Department, 2004, p. 2.8).

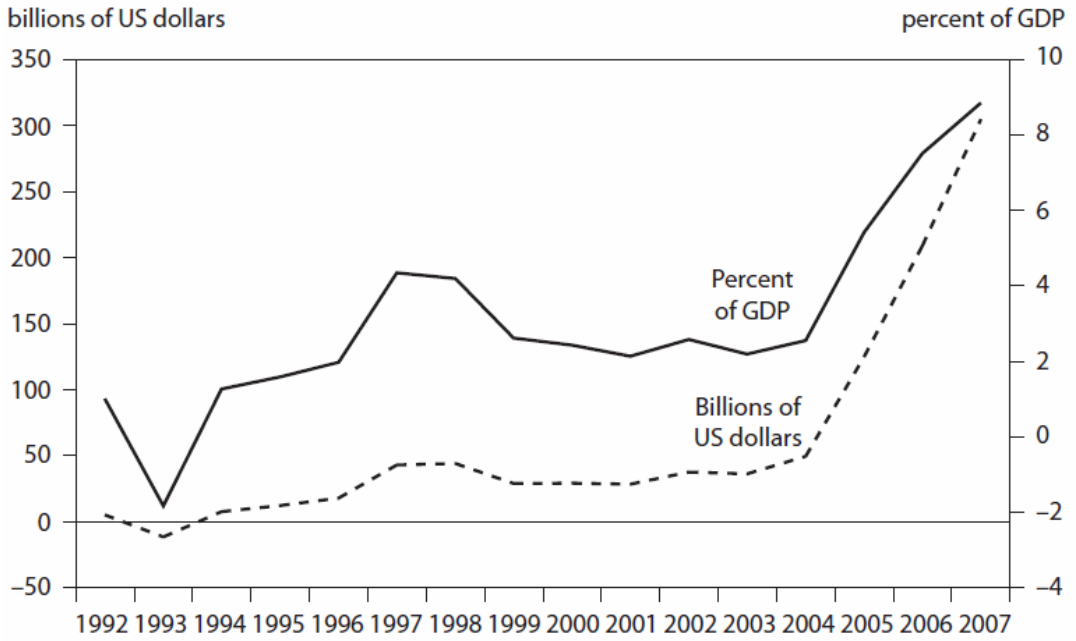
From 1992 to 2007 China's export structure has transformed dramatically. There has been a significant decline in the share of agriculture and soft manufactures, such as textiles and clothes, with growing shares in hard manufactures, such as consumer electronics, appliances, and computers. However, a large component of this export growth in machinery has been mainly due to growth in processing trade – the practice of assembling duty free intermediate inputs. These inputs are generally of high skill content, originating in countries such as the United States and Japan (cf. Amiti, Freund, 2008, p. 2). As shown in Table 5.1, the processing trade accounts for an increasingly large share of China's exports, from 47 percent in 1992 to 55 percent in 2005. With great share of processing trade in its exports, China is trade giant without global brands.

According to the analysis of Amiti, Freund (2008), in spite of the change of the particular goods, the labour intensity of China's exports remains unchanged once we account for the processing trade. In other words, China is continuing to specialize in labour intensive goods. Further, exports remained highly concentrated in a small fraction of goods. These patterns are consistent with traditional trade theories by David Ricardo, who argued the logic of specialization according to comparative advantage (cf. Ricardo, 1951, p. 136).

Since 2005 the growth of net exports of goods and services has become, for the first time, a major source of economic growth. As shown in Figure 5.4, net exports of goods and services in 2005 more than doubled compared to 2004 to reach 125 billion USD and accounted for 5.4 percent of GDP. Exports expanded rapidly and reached 305 billion USD in 2007 which accounted for 8.9 percent of GDP. On average, in 2005-2007 the expansion

of net exports accounted for over a fifth of China's growth (cf. Bergsten, et al., 2008, p. 108; National Bureau of Statistics of China, 2007, p. 75). The net exports (or balance of trade) are the difference between the monetary value of exports and imports in an economy over a certain period of time. It is the relationship between a nation's imports and exports (cf. O'Sullivan, Sheffrin, 2003, p. 462).

Figure 5.4 Net exports of goods and services, 1992-2007



Sources: Bergsten, et al., 2008, p.109; National Bureau of Statistics of China, China Statistical Yearbook 2007.

In sum, although the government decided in 2004 to increase the role of domestic consumption demand in sustaining economic growth, consumption as a share of GDP has continued to fall and its contribution to China's economic growth has been modest. A slight moderation of the growth of investment has been made. Till 2007 the contribution of investment to GDP expansion had fallen to about 40 percent, substantially less than the extraordinarily high average of 60 percent in 2003 and 2004. On the other hand, net exports of goods and services have been raised both absolutely and as a share of GDP, and thus their contribution to economic growth is now unusually large (cf. Bergsten, et al., 2008, p. 109).

Note economic growth mainly driven by foreign trade makes China's economic development unbalanced. The trend of GDP growth shows that contributions by investment and consumption are decreasing, while contributions by net exports are increasing (see Figure 5.1, 5.2, 5.3 and 5.4).

5.2 Assessing the Challenges

As mentioned above, the main challenges in China's development are inequality of development and the increasing tendency of the protectionism of the West.

5.2.1 Inequality of the Income Distribution

As shown in chapter 4, the major internal challenge for China's development is the poverty and inequality, including uneven development, unemployment and inadequate social security system.

Income Growth of the Poverty Population Slowed Down since the 1990s

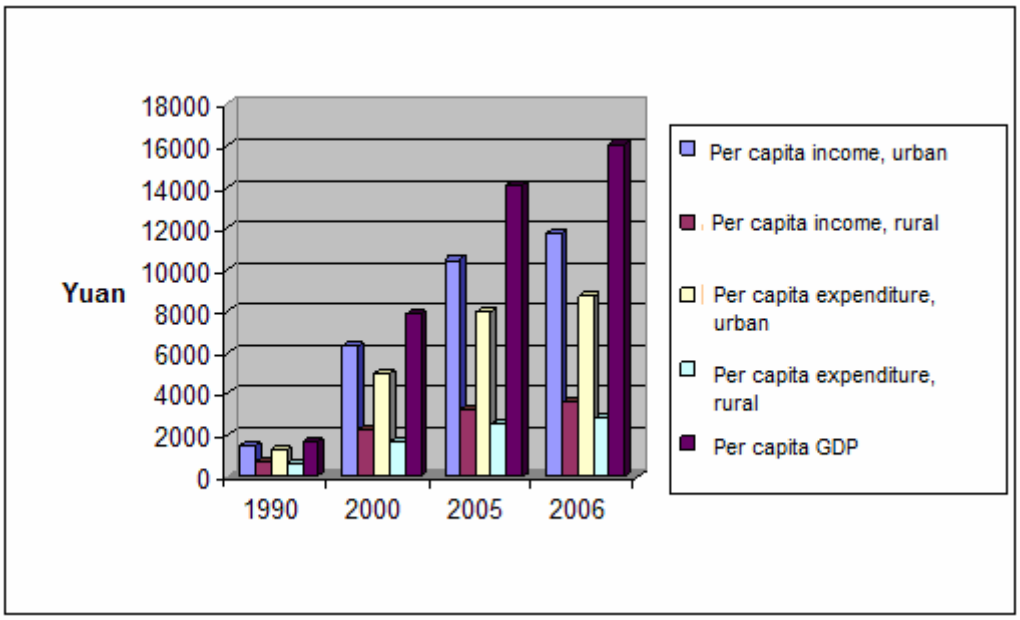
The relationship between economic growth and poverty reduction is not so simple. Actually it is not the speed of economic growth but the quality of economic growth, in other words, the economic development that is most important. The economic development of many developing countries demonstrates that although economic growth plays an important supporting role in social development, too rapid economic growth will produce damaging effects. Since the 1990s, China's economy has been increasing very rapidly, but the quality of its economic development is declining and the income allocation is uneven, which results in a decreased proportion of benefits obtained by the poverty population. Hence, the achievement of poverty reduction in China is virtually limited, though its growth rate of GDP has created the highest record in history (cf. Hu, 2007, p. 111). That is to say, the poor population has not directly benefited from the high growth rate of the economy.

The growth of per capita income and consumption lags far behind the growth of GDP per capita (see Figure 5.5). In the period 1990-2006, the growth rate of per capita GDP was much higher than the growth rate of per capita income and per capita expenditure of both rural and urban residents. The growth rate of per capita income and per capita expenditure

of urban residents was higher than those of the rural residents, which demonstrates that the urban residents have benefited more from the economic growth than the rural residents.

The proportion of agricultural production value in GDP has been decreasing continuously, because the growth rate of the GDP was much higher than that of agriculture value (see Table 5.2). That was the reason why the share of the farming income in total national income has been declining.

Figure 5.5 Annual per capita GDP, urban and rural income and consumption level per capita



Source: summarised by the author, with data from China Statistical Yearbook 2007 CD-ROM, 2007, table 10-1, table 3-1.

The proportion of agriculture in GDP was 42.3 percent in 1980 and has decreased to 20.1 percent in 2006, declining 22.2 percentage points (see Table 5.2). Further, the ratio of agricultural labour productivity to national average labour productivity has declined, the ratio of farmers' income per capita to GDP per capita has declined, and the proportion of farmers' agricultural income in their total income has decreased. The ratio between farmers' income per capita and GDP has also been dropping continuously. Generally speaking, agriculture is still the main income source of farmers who represent approximately 65 percentage of the total population in China (author's calculation, with

data from United Nations Department of Economic and Social Affairs, 2004, p. 36), but the gap between per capita GDP and farmers' per capita net income and per capita real consumption level produces obviously a large negative impact on the increase of purchasing power (see Figure 5.5; cf. Hu, 2007, pp. 115-116).

Table 5.2 Proportion of agriculture value in GDP (100 million yuan)

Year	GDP	Agriculture value	Proportion of agriculture in GDP
1980	4,545.6	1,922.6	42.3%
1990	18,667.8	7,662.1	41.0%
2000	99,214.6	24,915.8	25.1%
2006	210,871.0	42,424.4	20.1%

Source: summarised by the author, with data from China Statistical Yearbook 2007 CD-ROM, 2007, table 3-1, table 13-6.

Table 5.3 Number of employed persons at year-end in urban and rural areas (10,000 persons)

Year	Total	Urban Areas	Rural Areas
1990	64,749	17,041	47,708
2000	72,085	23,151	48,934
2005	75,825	27,331	48,494
2006	76,400	28,310	48,090

Source: China Statistical Yearbook 2007 CD-ROM, 2007, table 5-2.

The employment opportunities in rural areas are declining. Since the 1990s, the opportunities for employment created in urban areas are far more than those in rural areas (cf. Hu, 2007, p. 116). As shown in Table 5.3, in the period 1990-2000, the growth rate of urban employment was 35.9 percent, while the growth rate of rural employment was 2.6 percent; from 2000 to 2006, the growth rate of employment was 22.3 percent in urban areas and -1.7 percent in rural areas; and in the whole period 1990-2006, the growth rate of

urban employment was 66.1 percent, while the growth rate of rural employment was only 0.8 percent. Notice that the number of employed persons in rural areas decreased by a large margin, decreasing by 8.44 million just in period 2000 – 2006 (see Table 5.3).

Because large quantities of employees in the cities had been laid off or lost their jobs since the opening and economic reform, there was a limit for rural labour to enter into cities. Consequently, the pressure of employment competition became larger, and the remitting income flowing from cities to rural areas declined (cf. Hu, 2007, pp. 116-117). Along with the progress of urbanization, the rising amount of migrant workers from the rural areas to the urban areas built up more pressure of employment competition in the cities.

Table 5.4 Composition of gross domestic product

Year	Primary Industry	Secondary Industry	Tertiary Industry	GDP
1980	30.2	48.2	21.6	100.0
1990	27.1	41.3	31.6	100.0
2000	15.1	45.9	39.0	100.0
2005	12.5	47.5	40.0	100.0
2006	11.7	48.9	39.4	100.0

Source: China Statistical Yearbook 2007 CD-ROM, 2007, table 3-2.

Further, a great decrease in the prices of agricultural products increased the loss of exchange volume of agricultural products and impeded the realization of income increase of the rural population. The broad masses of Chinese farmers have been the most serious victims of deflation, because the price fluctuation in the macro-economy directly influences the farmers' income. Based on the price in 1996, the accumulated decrease rate of the purchase price level of national agricultural products was 25.6 percent by 2000. In the period 1997-2000, the trade volume of national agricultural products suffered a total loss of 301.3 billion yuan because of the price decrease (cf. Hu, 2007, pp. 116-118). As shown in Table 5.4, the primary industry (i.e. agriculture) share of GDP fell from 30.2 percent in 1980 to 11.7 percent in 2006. Note primary industry in China only refers to agriculture, including forestry, animal husbandry and fishery and services in support of

these industries. All mining and quarrying industries belong to secondary industry (cf. National Bureau of Statistics of China, 2003, p. 87).

Inequality in Distribution Continues Increasing

Since 1985, the degree of inequality between urban areas and rural areas, among different regions, and even within urban areas has intensified, which produces a great negative impact on the welfare of the poverty population and the private consumption. Great gaps exist between urban residents and rural residents usually in terms of per capita income, per capita consumption, revenue, transfer payments[6] and public services (cf. Hu, 2007, pp. 118-119).

Table 5.5 Income and transferred income per capita of urban and rural households (1990-2006)

Year	Urban Households			Rural Households		
	Per capita total annual income (yuan)	Per capita transfer income (yuan)	Transfer income / total income per capita (%)	Per capita total annual income (yuan)	Per capita transfer income (yuan)	Transfer income / total income per capita (%)
1990	1516.21	328.41	21.7	990.38	n.a.	n.a.
1995	4279.02	725.76	17.0	2337.87	65.77	2.8
2000	6295.91	1440.78	22.9	3146.21	147.59	4.7
2005	11320.77	2650.70	23.4	4631.21	203.81	4.4
2006	12719.19	2898.66	22.8	5025.08	239.82	4.8

Source: China Statistical Yearbook 2007 CD-ROM, 2007, table 10-5, 10-18.

Figure 5.5 demonstrates the proportion between per capita disposable income and per capita consumption in urban areas and that in rural areas, from which we can see the great gap between urban areas and rural areas. As mentioned in chapter 4, in 1990 the average

[6] Transfer payments are payments made by the government for the purpose of redistribution of income in the market system. Examples of transfer payments include welfare payment (financial aid), social security, and government subsidies for certain businesses. Transfers may be classified into three major types: transfers between rich and poor; transfer over time (as with the provision of pensions); and transfers to meet contingencies such as sickness or unemployment (cf. Hockley, 1979, p.109; cf. McConnell, Brue, 2004, p. 83).

income and consumption of urban households were both 2.2 times of that of rural households; however, in 2006 these ratios have increased to 3.3 times and 3.1 times, 50 percent and 41 percent higher than that in 1990, respectively.

The high inequality effects of the fiscal distribution system have sharpened income inequality between the urban population and the rural population. The ratio of per capita income of urban households to that of rural households was 1:0.65 in 1990, 1:0.50 in 2000 and 1:0.40 in 2006. And rural residents' total income, the proportion of transfer payments acquired from the country and the collective is far lower than that of urban residents (see Table 5.5). Moreover, rural residents have to pay tax that is more than fiscal transferred income. However, urban households can obtain various types of fiscal allowances and profit from the net subsidies (cf. Hu, 2007, p. 119). As shown in Table 5.5, the per capita transferred income in rural areas is far below the level than that in urban areas. Further, the proportion of transferred income in total income of the rural households is also much less than that of the urban households.

One of the most important poverty indices is the Engel coefficient, which refers to the percentage of expenditure on food in the total consumption expenditure, using the following formula:

$$\text{Engel Coefficient} = \frac{C_{food}}{\sum C} \times 100\% \qquad (5\text{-}01)$$

where C_{food} is the expenditure on food, and $\sum C$ the total consumption expenditure. As income increases, the proportion devoted to food (Engel Coefficient) will decline. This effect is also called Calorie-Income Elasticity (cf. Spicker, Leguizamón and Gordon, 2007, P. 64). Table 5.6 shows us the per capita annual income and Engel coefficient from 1978 to 2006.

As shown in Table 5.6, the urban Engel coefficient, i.e. the proportion of total family income spent on food of the urban households, declined from 57.5 percent in 1978 to 35.8 percent in 2006, while the proportion of total family income spent on food of the rural households declined from 67.7 percent in 1978 to 43.0 percent in 2006. Rural families still have to spend a considerably more proportion of total income on food than the urban families. This implies an inequality of income distribution between urban and rural households.

Table 5.6 Per capita annual income and Engel coefficient of urban and rural households

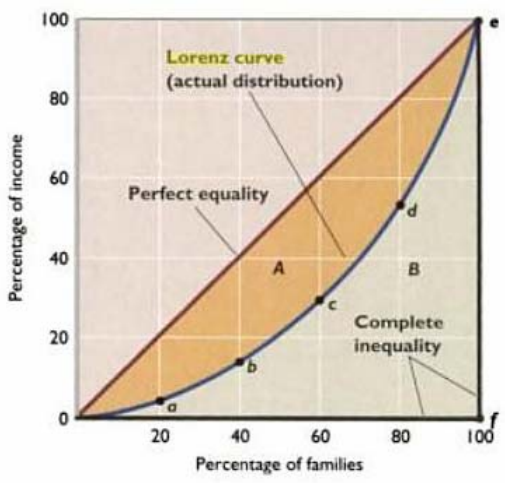
Year	Per capita annual disposable income of urban households		Per capita annual net income of rural households		Engel coefficient of urban households (%)	Engel coefficient of rural households (%)
	Value (yuan)	Index	Value (yuan)	Index		
1978	343.4	100.0	133.6	100.0	57.5	67.7
1980	477.6	127.0	191.3	139.0	56.9	61.8
1985	739.1	160.4	397.6	268.9	53.3	57.8
1990	1510.2	198.1	686.3	311.2	54.2	58.8
1991	1700.6	212.4	708.6	317.4	53.8	57.6
1992	2026.6	232.9	784.0	336.2	53.0	57.6
1993	2577.4	255.1	921.6	346.9	50.3	58.1
1994	3496.2	276.8	1221.0	364.3	50.0	58.9
1995	4283.0	290.3	1577.7	383.6	50.1	58.6
1996	4838.9	301.6	1926.1	418.1	48.8	56.3
1997	5160.3	311.9	2090.1	437.3	46.6	55.1
1998	5425.1	329.9	2162.0	456.1	44.7	53.4
1999	5854.0	360.6	2210.3	473.5	42.1	52.6
2000	6280.0	383.7	2253.4	483.4	39.4	49.1
2001	6859.6	416.3	2366.4	503.7	38.2	47.7
2002	7702.8	472.1	2475.6	527.9	37.7	46.2
2003	8472.2	514.6	2622.2	550.6	37.1	45.6
2004	9421.6	554.2	2936.4	588.0	37.7	47.2
2005	10493.0	607.4	3254.9	624.5	36.7	45.5
2006	11759.5	670.7	3587.0	670.7	35.8	43.0

Source: China Statistical Yearbook 2007 CD-ROM, 2007, table 10-2

Gini Coefficient is another index of inequality used to measure the distribution of income or land holdings, where perfect equality is 0 and perfect inequality, i.e., one person has everything and the others have nothing, is 1. The higher the Gini, the higher the

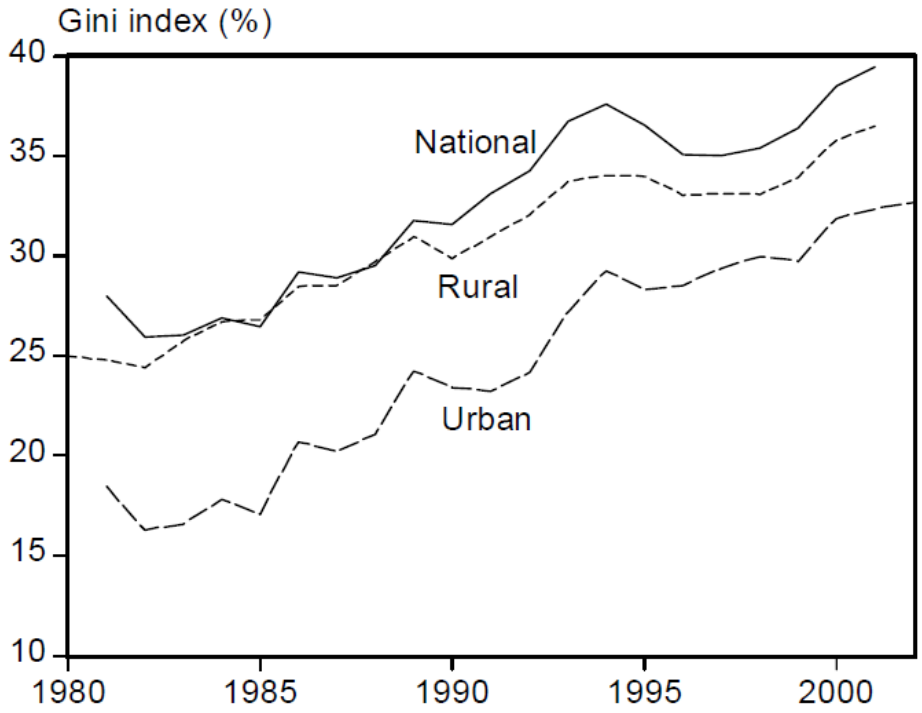
income inequality; the lower the Gini, the lower the income inequality (cf. Nafziger, 2006, p. 745).

Figure 5.6 Definition of Lorenz curve and Gini coefficient



Source: McConnell, Brue, 2004, p. 388, figure 21.1.

Figure 5.7 Income inequality in rural and urban areas and nationally



Source: Ravallion, Chen, 2004. p. 51, figure 7.

Table 5.7 Gini indices of income inequality in China

Year	Rural	Urban	National	
			Without adjustment for COL[7] difference	With adjustment for COL difference
1981	24.73	18.46	30.95	27.98
1982	24.40	16.27	28.53	25.91
1983	25.73	16.59	28.28	26.02
1984	26.69	17.79	29.11	26.89
1985	26.80	17.06	28.95	26.45
1986	28.48	20.66	32.41	29.20
1987	28.53	20.20	32.38	28.90
1988	29.71	21.08	33.01	29.50
1989	30.96	24.21	35.15	31.78
1990	29.87	23.42	34.85	31.55
1991	31.32	23.21	37.06	33.10
1992	32.03	24.18	39.01	34.24
1993	33.70	27.18	41.95	36.74
1994	34.00	29.22	43.31	37.60
1995	33.98	28.27	41.50	36.53
1996	32.98	28.52	39.75	35.05
1997	33.12	29.35	39.78	35.00
1998	33.07	29.94	40.33	35.37
1999	33.91	29.71	41.61	36.37
2000	35.75	31.86	43.82	38.49
2001	36.48	32.32	44.73	39.45

Source: Ravallion, Chen, 2004, p. 43, table 9.

Lorenz curve is a graph used to show the degree of income inequality. The area between the diagonal (the line of perfect equality) and the Lorenz curve represents the

[7] Cost of living is the cost of maintaining a certain standard of living.

degree of inequality in the income distribution. As shown in Figure 5.6, this inequality is measured numerically by the Gini coefficient – Area A divided by area A + B (cf. McConnell, Brue, 2004, p. 388).

In China, both rural and urban inequality showed a trend increase (see Table 5.7). The rise in inequality is even more pronounced if we use an absolute measure, based on the absolute differences in incomes rather than proportional differences. Figure 5.7 gives the absolute Gini index, in which absolute differences are normalized by the 1990 national mean (cf. Ravallion, Chen, 2004, pp. 16-17).

Inequality of income distribution within rural regions is also enlarging since the reform. According to the estimation of Adelman, Sunding, the Gini coefficient of rural residents' income in 1978 was 0.22 (cf. Adelman, Sunding, 1988, pp. 444-461). However, in 2001 it increased to 0.36, which was 14 percent more than that in 1978, the beginning year of China's reform. According to National Bureau of Statistics of China, the Gini coefficient within rural households was 0.3692 in 2004, up by 0.0012 over the previous year, which was lower than the increment of 0.0034 in 2003 (National Bureau of Statistics of China, 2005). In 2004 the China's national Gini coefficient was 0.472 (cf. Asian Development Bank, 2007, p. 119), which showed the increasing trend again.

The preceding analysis shows that high economic growth alone cannot automatically solve the problems of income inequality. The fruits brought by economic growth and the open-door policy cannot be automatically shared by all the people. Inequality caused by the economic growth restricted the people's opportunity to share the fruits of growth. The distribution policy of the government plays an essential role in income distribution and living standard improvement for all people. Till today, economic policies are preferential to east coastal areas, but not beneficial to the development of inland areas. Only if economic growth with high quality is maintained, can investment distortion be avoided, full exploitation and utilization of human capital be realized, and can all people benefit from economic growth as well as income inequality be prevented (cf. Hu, 2007, pp. 122-124).

5.2.2 The Increasing Tendency of Protectionism of the West

An allegation is well known that the bilateral US-China and EU-China trade deficit represents the export of unemployment from China to the United States and Europe.

Table 5.8 US-China trade and job displacement

U.S.-China trade (in billions of dollars)						
	1997	2001	2006	1997-2001	2001-2006	Percentage change
U.S. domestic exports[8]	12.5	18.0	51.6	5.4	33.7	520%
U.S. imports	62.0	102.1	287.1	40.1	185.0	362%
U.S. trade balance	-49.5	-84.1	-235.4	-34.6	-151.3	337%
Average annual increase in the trade deficit				-9	-30	250%
U.S. trade-related jobs supported and displaced (in thousands of jobs)						
	1997	2001	2006	1997-2001	2001-2006	Percentage change
U.S. domestic exports	138.3	189.3	526.3	50.9	337.0	562%
U.S. imports-jobs displaced	735.6	1,189.6	3,289.7	454.0	2,100.0	363%
U.S. trade balance-net job lost	597.3	1,000.4	2,763.4	403.1	1,763.0	337%
Average annual job displacement				101	353	250%

Source: Scott, 2007, table 1.

A recent study of the Economic Policy Institute by Robert Scott (2007) showed that the US-China bilateral trade deficit of 49.5 billion USD in 1997 caused the loss of 597,300 jobs and the bilateral trade deficit of 235.4 billion USD in 2006 caused the loss of 2,763,400 jobs in the US. Every state suffered a net loss of jobs from the rise in the bilateral trade deficit during 1997-2006 (see Table 5.8). The result of the analysis also implied that in 2006 the unemployment rate was 1.21 percent higher than if the bilateral trade balance had been zero. China entered into the WTO in 2001. As shown in Table 5.8, between 1997 and 2001, the deficit increased 9 billion USD per year on average; between 2001 and 2006, the deficit increased 30 billion USD per year on average. Growth in trade

[8] Domestic exports are goods produced in the United States. Re-exports goods, goods produced in other countries and shipped through the United States are not included.

deficits with China has reduced demand for goods produced in the United States and has led to job displacement in all states (cf. Scott, 2007, pp. 1-5).

Reason for the Trade Deficit

According to the analysis by Stanley Crossick, director and founding chairman of the European Policy Centre, it is natural for a developed high-cost economy (e.g. EU and US) to run a deficit with a low-cost efficient economy (like China); but size of the deficit and the rising trend cause concern. We should note the following facts:

- in areas where Europe and US are generally uncompetitive (e.g. clothing and shoes), restrictions on Chinese imports would simply be replaced by imports from other Asian countries.
- about 60 percent of all exports from China are companies wholly or substantially owned by foreign companies.
- the added value accruing to China is usually very limited (probably to the order of 20 percent).
- a high profit accrues to European and US companies.
- lower prices of commodities and intermediate products benefit consumers and producers in the West.
- China's purchase of US debt benefits the US economy and enhance its purchasing power (cf. Crossick, 2008).

In short, the deficit occurs and keeps growing because on one side clearly, the consumer purchasing power in China is low, so that China needs to sell its products abroad, on the other side however, different interest groups in the United States and Europe are willing to make deficit happen in order to benefit from it.

Debates on China's Exchange Rate Policy

According to the analysis by Scott, the mean reasons of the US-China deficit are China's manipulation of the exchange rate and China's subsidy on exports production. As a matter of policy, China tightly manipulates its currency's value to that of the dollar at a rate that encourages exports and consequently a large bilateral surplus with the United States. In order to maintain this policy, China purchased about 200 billion USD in U.S. Treasury Bills and other securities in 2006 alone. This intervention makes the yuan

artificially cheap and provides an effective subsidy on Chinese exports; according to estimations the rate of this effective subsidy is roughly 40 percent (cf. Scott, 2007, p. 1).

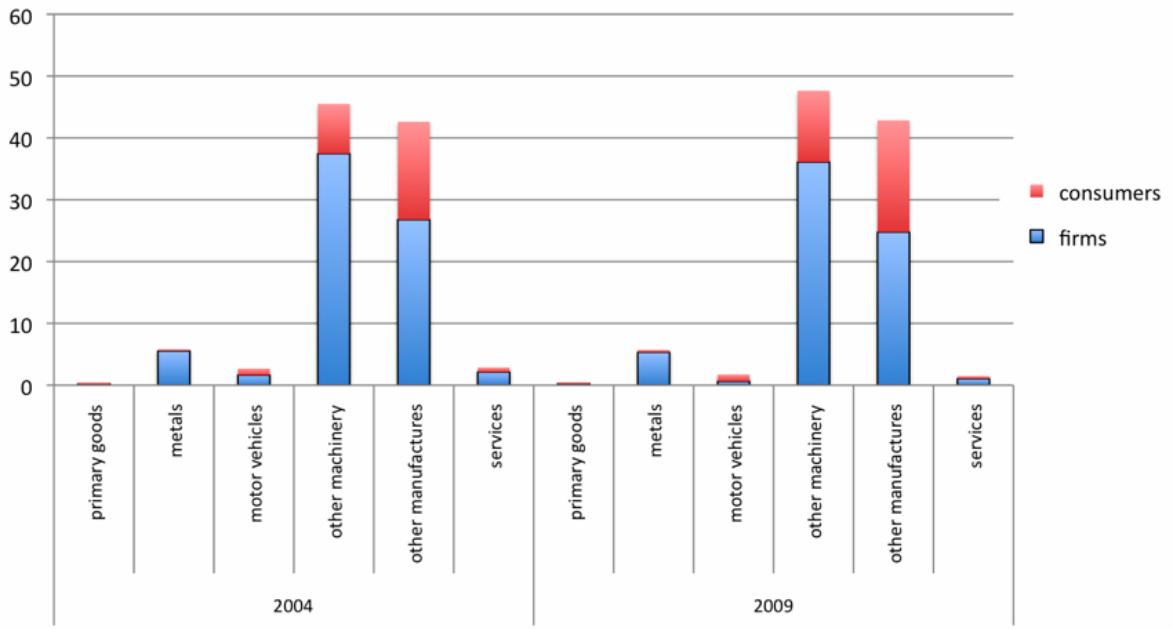
The Nobel Prize winner in Economics Paul Krugman made a similar interpretation in his article "China's Dollar Trap" in New York Times on 2nd April 2009. He pointed out, if China had had a floating exchange rate like e.g. Canada, the value of its currency would have risen, which would have slowed the growth of China's exports. But China tried to keep the value of the yuan in terms of the dollar more or less fixed. For this purpose it had to buy up dollars as they came flooding in. As a result, trade surpluses just kept growing – and so did China's reserve of foreign assets (cf. Krugman, 2009a). Krugman and also many other economists believe that China's asset-buying helped inflate the housing bubble in the US, setting the stage for the global financial crisis to some extent. In the view of Krugman, America needs a weaker dollar to help reduce its trade deficit, but this goal can not be achieved until the value of China's currency reaches a reasonable level. By pursuing a weak-currency policy, China is hurting growth of the US (cf. Krugman, 2009b).

However, another Nobel Prize winner in Economics, Joseph Stiglitz, has totally different opinion. In his article *No Time for a Trade War* he pointed out, China's Exchange Rate is not the major driver behind the huge trade balance deficit of the US. Saudi Arabia has a multilateral merchandise surplus of $212 billion in 2008 in excess of China's $175 billion surplus; as a percentage of GDP, Saudi Arabia's current-account surplus, at 11.5 percent of GDP, is more than twice that of China. Moreover, China's current-account surplus is actually less than the combined figure for Japan and Germany; as a percentage of GDP, it is 5 percent, compared to Germany's 5.2 percent. Many factors other than exchange rates affect a country's trade balance. The key determinant, according to Joseph Stiglitz, is national savings. America's multilateral trade deficit will not be significantly narrowed until America saves significantly more (cf. Stiglitz, 2010). Even if China strengthened its yuan relative to the dollar and eliminated its entire trade surplus with the United States, and even if that immediately translated into a reduction in the American multilateral trade deficit, the United States would simply buy fewer textiles from China and more from Bangladesh, Cambodia and other developing countries. There would be no significant change in America's multilateral trade deficit at all. Meanwhile, because a stronger yuan would make imported American agricultural products cheaper than that in China, the poorest Chinese – the farmers – would see their incomes fall as domestic prices for agriculture dropped down substantially. China might be forced to counter the depressing effect of America's huge agricultural subsidies by diverting money badly

needed for industrial development into subsidies for its farmers. China's growth might accordingly be slowed, which would slow growth globally (cf. Stiglitz, 2006).

The US urged Beijing to revalue the renminbi against the dollar. In fact, the Chinese currency has appreciated 16 percent in the period of 2005-2008 against the US dollar. However, during this same period, the renminbi has weakened some 10 percent against the euro, which is damaging to European competitiveness. However, the problem is the weak dollar and not the strong renminbi, according to Stanley Crossick. Clearly, the European and American workers who lose their jobs due to loss of competitiveness will not be comforted by being told that their country overall benefits from importing low price merchandise (cf. Crossick, 2008).

Figure 5.8 US imports from China, by use (percent of total)



Source: Evenett, Francois, 2010, Figure 1.

As he served as the European Commissioner for Trade, Peter Mandelson said in 2007, that revaluation of the yuan would benefit the Chinese economy. Mandelson already noted the fact that China's interest clearly lies in a gradual revaluation that takes some of the excess heat out of the export sector and strengthens consumer purchasing power. Meanwhile, Mandelson implicitly accepted that the EU trade imbalance with China was a complex phenomenon and the exchange rate would make little difference since the deficit reflects rather the refocusing of European supply chains away from other countries of Asia.

Hence, European should not focus on the exchange rate as a way to reduce Chinese imports but focus on improving market access to increase European exports to China (cf. Freeman, 2008).

As shown in Figure 5.8, most of the US imports from China are not for the US consumers, but for the US companies. Joseph Francois has analyzed the 2004-2009 data and pointed out that the current pattern of trade between China and the US points to a complex relationship whereby US firms gain competitiveness by importing from China, because a large and growing share of bilateral trade is in intermediate goods (including parts and components). As a result, the Chinese currency appreciation or even a punitive US tariff against Chinese products might boost the competitiveness of US exports to China but reduce US competitiveness everywhere else. Such policies would rather worsen employment conditions in the US labour market (cf. Francois, 2010, pp. 162-163).

Correcting the Balance of Trade Deficit is Difficult

The balance of trade deficit between the West and China means the domestic customers benefit from imported products from China that are less expensive than locally produced products. But the purchase of imported products implies less demand on domestic production. Thus, the large deficit of balance of trade between the West and China causes a transfer of jobs to China. Consequently, the western governments may take actions to correct a balance of trade deficit on the current account (cf. Madura, Fox, 2007, p. 54).

A deficit in a country's balance of trade suggests that the country is spending more funds on foreign products than it is receiving from its own exports to foreign countries. Because it is selling its currency (to buy foreign goods) in greater volume than the foreign demand for its currency, the value of its currency should decrease. This decrease in value should encourage more foreign demand for its goods in the future. But this theory does not always work, since the negative balance on the current account can be sustained by positive balance on the financial account representing a net inflow of investment into the country (cf. Madura, Fox, 2007, p. 55). With the increasing export to the US, China's ownership of U.S. government debt has doubled since July 2005 and it surpassed Japan in September 2008 to become the biggest foreign holder of U.S. Treasuries (cf. U.S. Department of the Treasury, 2009).

The United States normally experiences a large balance of trade deficit, which should place downward pressure on the value of the dollar. But there is substantial investment in dollar-denominated securities by foreign investors, especially Chinese investors. This foreign demand for the dollar places upward pressure on its value and offset the downward pressure caused by the trade imbalance. Hence on the international exchanges the excess of dollars being offered for foreign currency to pay for imports is met by a demand by holders of foreign currency to buy dollars in order to buy US bonds and securities, or hold reserves in US dollar, just like China did in recent years. The deficit on the current account due to the surplus imports is being met by a positive balance on the financial account due to surplus investment into the US. Thus, the US balance of trade deficit can not be corrected by a currency adjustment (cf. Madura, Fox, 2007, p. 55).

Scott pointed out that the current U.S.-China trade relationship is bad for both countries. The United States is cumulating foreign debt, losing production and export capacity, and facing a more fragile macroeconomic environment with increasing unemployment. Meanwhile, China has become more and more dependent on the U.S. consumer market for its employment creation, has suppressed the purchasing power of China's middle class with a weak currency, and, most importantly, has held hundreds of billions of hard-currency reserves in low-yielding, risky assets, instead of investing them in public goods that could benefit Chinese households (cf. Scott, 2007, p. 7).

5.2.3 China and Europe: Economic Relations

Has the West Really Got it Right on China?

Since the beginning of China's open door policy and economic reform in the early 1980s, there has been a crucial belief in the West that China would become like the West. But today the Westerners are surprised to see that with a strong sense of their identity and worth, the Chinese have never behaved toward the West in a supplicant manner as expected. It seems that China will never be like the West (cf. Jacques, 2009). On 14th November 2009, less than 48 hours before Obama's arrival in Beijing, Xi Jinping, the vice president of China, had held a conference in Beijing and recommended studying socialist theory with Chinese characteristics and applying the "core values of socialism". On 13th and 14th November, Zheng Bijian, a political adviser to President Hu Jintao, flew to Taiwan to take part in a seminar on political systems. It was the first time that a very senior

Beijing official had agreed to discuss the differences between the socialist system with Chinese characteristics and a Western-style parliamentary system. The two messages appear to be that with the current economic crisis China has to renew the doubts about the value of the Western system, and will be growing more cautiously. The Chinese are significantly loosing their faith in the capitalist system of the West, and China is becoming more convinced and self-confident in its trial reforms of the political system (cf. Sisci, 2009). Contrary to the expectations of the Western press and people, the "socialism with Chinese characteristics" will not be ended, but strengthened and become even more influential in parallel with its economic growth. Martin Jacques, British journalist and author of the book *When China Rules the World: The End of the Western World and the Birth of a New Global Order*, said: "The West has gotten it wrong on China for decades" (Jacques, 2009). If so, what are supposed to be the reasons?

Many Westerners have assumed that the process of modernization in China would inevitably lead to Westernization; however, modernization is not only shaped by markets, competition and technology, but also by history and culture. Chinese history and culture are very different from that of any Western nation-state, so that it is no wonder that China might have a very different modernization. Also in economic areas, some major Western predictions about China have proved wrong: that its economic growth could not be sustained and the economy would break down, that its growth figures were greatly exaggerated (cf. Jacques, 2009). Nobody has expected a developing country becoming one of the world's biggest economies. But now it really comes true.

Confucius, the most influential thinker and philosopher in China's history, has considered himself a conservative, talking frequently about the "Ways of Former Kings" that were supposed to represent the legitimacy of the governance. However, many of his ideas influenced also Western philosophers such as John Locke, who argued that the government should serve the people rather than vice versa. Confucius maintained that a society organized under the moral "Do not impose on others what you yourself do not desire" would be both prosperous and politically stable. The ideas and writings of Confucius served as the foundation for Chinese education for some 2000 years until the end of the last feudalistic dynasty in 1911 (cf. Lam, Graham, 2006, p. 16). The influence of Confucianism on China's civilization is tremendous. Even today, the Chinese still use many sayings of Confucius in their daily life, consciously or in most instances unconsciously.

China's sense of identity comes from its long history as a civilization-state. It is defined by its extraordinarily long history and its huge geographic and demographic scale and diversity. Unity is the nation's first priority, and plurality is the condition of its existence. This is why China could offer Hong Kong "one country two systems" so that Hong Kong's previous capitalist system and its way of life remain unchanged since the hand over of Hong Kong from Britain. Utterly different from how the state is seen in Western societies, the state is seen by the Chinese as the guardian, custodian and embodiment of their civilization, and the duty of the state is to protect its unity. Therefore the legitimacy of the state is decisive in Chinese history. Since 200 years, Europe and the United States have been dominating the world and have not been required to understand others. The emergence of China as a global power marks the beginning of a new era that Europe and the United States have to deal with the rest of the world on increasingly equal terms (cf. Jacques, 2009). The Chinese philosophy and history could help us to answer the question why the relationship between the Chinese state and society is so different compared with the West. Only on this basis, one has the ability to anticipate the behaviour of the Chinese and thus the future growth path of China.

Assessing China-Europe Relations, Particularly in Respect of Trade, Energy and Currency Exchange Rate

With a steady and overall convergence of interests, Europe and China are at a complex crossroad in their relationship. Both sides see value in stronger relations and neither side views the other as a main strategic threat. As the role of China grows in a globalizing world, the two sides find they have an increasing range of interests in an increasing number of places – first of all in economic term – around the world. In the near term, the most prominent feature of Europe-China relations will be continuing growth and concomitant tensions in their economic and trade relationship. Further, in the medium or long term the two sides will find a greater sense of common ground by focusing more of their cooperation in the area of energy, environment, and sustainable development. These are areas where both sides have placed great priority (cf. Gill, Murphy, 2008, pp. VII-IX). Three selected important issues of the China-Europe relations will be discussed: trade relations, energy, and currency.

Trade relations

Trade between EU and China has increased dramatically in recent years. China is now the EU's second biggest trading partner after the United States and the biggest source of imports. The EU has already replaced the United States and become China's biggest trading partner. EU's imports from China are mainly industrial goods: machinery and transport equipment and miscellaneous manufactured articles. EU's exports to China are also concentrated on industrial products: machinery and transport equipment, miscellaneous manufactured goods and chemicals (cf. European Commission, 2009). Following is the bilateral trade statistics for the year 2008 between EU and China:

Trade in goods

- EU goods exports to China 2008: 78.4 billion EUR
- EU goods imports from China 2008: 247.6 billion EUR

Trade in services

- EU services exports to China 2008: 20.1 billion EUR
- EU services imports from China 2008: 14.4 billion EUR

Foreign Direct Investment

- Direct investment from EU to China 2008: 4.5 billion EUR
- Direct investment from China to EU 2008: 0.1 billion EUR

This statistic shows us the large volume of bilateral trade between Europe and China, whereas EU has deficit in the balance of goods trade, but surplus in the balance of services trade. European foreign direct investment (FDI) to China has reached 6 billion EUR in 2005 (cf. Aslund, Dabrowski, 2008, p. 253), and dropped to 4.5 billion EUR in 2008. On one side the EU's open market has contributed to China's export-led growth, on the other side, the EU has also benefited from the growth of the Chinese market. However, the two sides still have conflicts in respect of meeting WTO obligations including fair trade and protection of intellectual property rights. These unresolved conflicts explain why in spite of increasing cooperation, the EU regards China as the single most important challenge for EU trade policy (cf. European Commission, 2009).

EU Trade Commissioner Peter Mandelson argued in his speech at the EU-China conference in Brussel in 2006 that Europe needs to adapt to China's dramatic rise, and China needs to meet its WTO obligations and take its responsibilities in the global economy. Echoing the call from European business for fair treatment in China, he pointed

out that besides benefiting hugely from global trade, China needs to better enforce intellectual property rules and improve access for European investment and European imports. The large imports from China are likely to bring the European countries threats and utilities. Mandelson used the case of the United States to interpret the situation: Cheap imports from China are estimated to have saved US consumers half a trillion dollars in the last decade, and saved manufacturers about the same in cheaper inputs for domestic production because not only many raw materials but also plenty of intermediate products are imported from China. Those savings are either invested or spent elsewhere in the United States. The situation might be very alike in the EU, although Mandelson didn't find similar figures. China's initial challenge for Europe has been the low-cost labour-intensive manufacturing. China is strengthening its investment in research and development and moving into higher-cost production; it is expected that China will challenge Europe with cars and precision manufacturing in the medium-term. In the longer term, the competition between the trade partners might move to the area of aircraft and marine engineering. Europe must accept, adapt to and compete with the Chinese challenge. China must continue to work to meet its WTO obligations and to play by the rules. Mandelson called this 'the grand bargain' (cf. Mandelson, 2006). To create a win-win game for both and successfully meet the interests in common, closer collaboration between the two sides is the key, particularly in the economic areas. The new strategic mechanism between the EU and China for driving trade and economic policy, which was launched in 2008, will contribute to the development of the bilateral relations.

Energy

China's strong demand for energy and raw materials has had significant impact on world markets. From 1995 to 2005, China's demand for energy accounted for 32 percent of the energy demand growth of the whole world, whereas Europe accounted for only 11 percent. According to the International Energy Agency, China's demand for energy should continue to grow in future and more than double between 2005 and 2030. Europe is obviously affected by the increase in the relative price of energy. China's fast growth resulted not only in a global supply shock for the market for goods but also in a global demand shock for the market for energy and raw materials (cf. Aslund, Dabrowski, 2008, pp. 261-262). Therefore China's development is often considered a threat to Europe, not only because of the trade deficit but also in the respect of competition in energy market.

There are two ways to promote the secure access to energy. One is to rely on the open markets and on multilateral rules designed to accomplish the proper functioning of these markets. The other is to rely on self-insurance through the accumulation of reserves or bilateral deals with selected partners. These two solutions are hardly compatible in a tight market, because bilateral arrangements reduce the depth of markets[9] and therefore the security of the countries that primarily rely on it for ensuring their supplies. In the last decades, the industrialized countries including Europe have been in the direction of the first model and Europe has relied mainly on the global market for its oil supplies. However, China relies on bilateral oil agreements as it meets its growing oil demand on the open market. The energy security of the European Union is likely to be undermined and a significant shift toward bilateral agreements could contribute to changing the pattern of world oil supplies. Also this issue deserves a serious forward-looking dialogue between the EU and China, in which both sides exchange their views on the future of energy and raw material markets (cf. Aslund, Dabrowski, 2008, pp. 262-263).

Africa is the most resource-laden continent with 10 of the globe's 84 million barrels per day oil production in 2005. The EU imported 18.9 billion EUR of its total oil imports of 62.5 billion EUR from Africa in 2007 (cf. Percival, 2008). The United States imported 22 percent of its total oil imports (2.23 million barrels per day) from Africa and also 22 percent from the Middle East in 2006. China imported 48 percent of the 7.2 million barrels per day from Africa and the amount is still rising. By 2025, China's imports should reach 10.7 million barrels per day. More than 60 percent of the output of Sudan, Africa's third largest oil producer, went to China. Angola and Nigeria sent each a quarter of their oil production to China. Chinese got better prices in oil trade with Africa because they provided Africa with investments and infrastructure loans typically at zero or near-zero interest (cf. Sautman, Yan, 2008, p. 92). Contrary to Western countries that always try to combine the trade and investment with domestic affairs of their trade partners, Chinese leaders have repeatedly stressed the principle of "mutual noninterference in domestic affairs" since the Asian-African Bandung Conference in 1955 (cf. Brautigam, 2007). This is the main reason why the industrialized countries have been continually criticizing China that it makes no contribution to democratic development in these countries, however, this is also why China is more popular and more effective in doing business with Africa compared with the West.

[9] Depth of market is a measure of how much a price has to move in order to execute larger than normal transactions. The smaller the price movement and the larger the transaction, the deeper the market (cf. Sexton, 2008, p. 238).

China and the EU have a lot to gain by cooperation in the areas of energy and environment protection. Governments from the EU and China should coordinate efforts on the exploitation of new energy resources. Sharing new technologies in the exploitation of new energy resources and experiences on traditional energy use will allow European firms to lower the costs of their exploitation and Chinese firms to make progress more quickly. EU and China should be engaging in dialogue in order to find a way to facilitate European transfer of energy related technologies to China in exchange for easier access to the rising Chinese consumption market. The rational choice for the EU and China is to abandon the zero-sum game that they have been tending to play. Their relationship is not necessarily competitive in terms of energy demand (cf. Ding, 2007, pp. 38-39). The cooperation will be great benefit to both sides and reduce the pressure on the world energy market.

Stronger collaboration in this regard could benefit both the EU and China. For instance, China has 11 nuclear power reactors in commercial operation but these are far from sufficient for the rising demand. Additional reactors are planned, some applying the world's most advanced technologies, to achieve a six-fold increase in nuclear capacity to at least 60 gigawatt electrical by 2020, and then a further increase to 120-160 gigawatt electrical by 2030 (cf. World Nuclear Association, 2009). For building nuclear power stations China needs the technology from the West. Through offering China technologies and knowhow, the EU will benefit from such large projects invested by China. And for the issue of Africa, the EU and China should focus on identifying the areas for collaboration in developing a partnership that benefits Africa's development and also the growth of EU and China.

Currency exchange rate

The exchange rate of the Chinese currency renminbi has become an important issue for Europe in recent years. Headed by Eurogroup President Jean-Claude Juncker, European Central Bank President Jean-Claude Trichet, and European Commissioner Joaquin Almunia, the high-level mission to Beijing in November 2007 expressed dissatisfaction with the way the Chinese currency was run. The first reasoning starts with the observation that the US dollar needs to depreciate to correct the US current account deficit. According to this logic, rigidity in the reminbi-dollar exchange rate shifts the burden of adjustment to the EU whose exchange rate is more flexible. This may cause a damaging overvaluation of the euro and will be in favour of the American exports in expense of European exports.

The second reasoning starts from the capital account. As the depreciation of US dollar will reduce the American imports, Chinese investors' preference for dollar assets will diminish and the China's central bank will make a diversification of reserves that would lead to a higher demand for euro-denominated assets and therefore an upward pressure on the euro exchange rate. These two approaches rely on the equilibrium exchange rate concept (cf. Aslund, Dabrowski, 2008, p. 264). An EU financial delegation, led by Luxembourg Prime Minister Jean-Claude Juncker, called on China on 29th November 2009 to revalue its currency renminbi that many policy makers in Europe and the US see as undervalued and giving a tremendous competitive advantage to Chinese exporters (cf. Falletti, 2009).

Just like the United States, the EU arguments in favour of appreciation of renminbi would also point to the persistence of China's high levels of trade surplus globally, in particular with the member states of the European Union. To deal with this issue, Willem van der Geest, research director of the Brussels-based European Institute for Asian Studies, pointed out that the EU must take note of the fact that on one side the Chinese policy makers and economists are fully aware of the need for greater exchange rate flexibility; on the other side however, they are also fully aware of the costs of a substantive revaluation of the currency. Therefore they prefer to make progress gradually and favour the following strategies: (i) increasing the volume of foreign exchange trading, (ii) developing instruments for controlling currency risks through hedging, and (iii) reforming financial sector and strengthening its regulations (cf. Geest, 2007, pp. 180-187).

A routine policy suggestion for Europe in this aspect is to cooperate closely with the United States and Japan to put more pressure on China to revalue its currency. However, the allies face a great challenge from inside: although the American economists and senators keep criticizing China's currency policy, the American official announcement has been repeatedly representing the contradictory standpoint. In 2005, the Treasury Department reported that China was not manipulating its exchange rate in violation of its obligations under article IV of the IMF charter (cf. Geest, 2007, p. 187). Again, the Treasury Department said in April 2009 that China was not manipulating its currency to increase its exports. This new report highlighted the political and economic policies that the Obama government would choose in dealing with Beijing (cf. Andrews, 2009). The interests of the overall US-China relationship might disable the government of the United States from concentrating on the currency debate. Without the cooperation of the United States, change can not be made in the short term.

From the perspective of China, the strongest argument against revaluation is that a revaluation only involving renminbi would just transfer China's trade gain to other countries with cheap production cost (cf. Geest, 2007, p. 188). Indeed, the ultimate driver for the trade deficit and increasing unemployment of the EU is the motive of the European companies to search worldwide the cheapest production. Even if renminbi is appreciated sufficiently, the imports from China to the West will decline, but through the quick adjustment of the European and American international companies the drop of the imports from China will be quickly compensated by the rising imports from other countries that can provide cheaper production, e.g. Vietnam, India, Indonesia, Philippine etc.

Robert Mundell, professor of economics at Columbia University and the recipient of the Nobel Memorial Prize in Economics in 1999, strongly disagrees with global pressure to force China to appreciate its currency, insisting that, "A large yuan appreciation wouldn't help resolve global current account imbalances, but would devastate China, causing drastic deflation, impoverishing the rural sector, and cutting its growth rate by as much as half" (Mundell, 2006, p. 6). He hopes that China would keep its exchange rate fixed to the dollar while continuing to move toward currency convertibility. Mundell thinks that the problem of China's huge buildup of foreign exchange reserves would be solved by more Chinese investments abroad and more Chinese consumption of imports (cf. Iley, Lewis, 2007, p. 226).

Cyn-Young Park, an economist of the Asian Development Bank, researched the global imbalances and exchange rate policies and found that 20 percent revaluation of Chinese renminbi could give rise to a reduction in the U.S. current account deficit of just about 0.1 percent of GDP. Thus he concluded that renminbi revaluation is not the instrument for correcting such high order of global imbalances (cf. Pattanaik, 2007, p. 312).

Finally, we come to the conclusion that on one side a revaluation of renminbi which is satisfactory to the Europeans will not be realized in the short term, on the other side, even if a sufficient revaluation of renminbi is realized, it could not help to correct the trade imbalances on the global level. Then, what should be the solution? A suggestion to reduce the friction caused by foreign exchange rate, correct the global trade imbalance and control international financial stability will be made in chapter *8.3 Suggestion on a new world economic and monetary order: Keynes's proposals at Bretton Woods 1944*.

5.3 Assessing the Impact

Bortis pointed out that since it is difficult to handle the income and distribution policies, most economies seem to rely presently upon the external employment mechanism[10] (see equation 2-43 in chapter 2). Typical cases in point are Germany, Japan, Switzerland and Taiwan (cf. Bortis, 2008, p. 80). According to the analysis by Kaldor, Japan's high growth rate in the period 1953-1976 was due both to its success as an exporter, with its export volume rising at 16 percent a year, and its low income elasticity of demand for imports (cf. Kaldor, 1983, p. 93). However, a successful exporter has to suffer certain disadvantages brought by export-led growth.

To become or remain a successful exporter, each economy attempts to attract firms which produce on its territory and export most of the production. The country may offer favourable conditions to such firms, such as a well-trained labour force, but not very high wages; a good infrastructure and a high-level education system, but not high taxes; a performing social security system with only small contributions to social security institutions; and damaging natural environment and not too much incomes policy. State expenditures and the general level of taxation are to be reduced through privatization. For these reasons, state activity, including expenditures for social security, has presumable stagnated or even diminished at the world level, and income distribution has, according to all statistics, become more unequal. As a result of the export-led growth, we have now very high levels of involuntary unemployment and underemployment worldwide, which now affects about 30 percent of the world labour force (cf. Bortis, 2008, p. 80).

Friedrich List opposed the absolute doctrine of free trade and argued: "Any nation which by means of protective duties and restrictions on navigation has raised her manufacturing power and her navigation to such a degree of development that no other nation can sustain free competition with her, can do nothing wiser than to throw away these ladders of her greatness, to preach to other nations the benefits of free trade, and to declare in penitent tones that she has hitherto wandered in the paths of error, and has now for the first time succeeded in discovering the truth" (List, 1885, p. 368).

[10] Multiplier effect means that an initial change in aggregate spending (foreign and/or domestic) causes a change in aggregate output for the economy that is a multiple of the initial change of spending. The multiplier is the ratio of the change in GDP to the change in autonomous spending. There are two types of the Keynesian multiplier relation: the saving/investment multiplier associated with the internal employment mechanism where the employment and growth are driven by domestic demand and investment, and the foreign trade multiplier linked up with the external employment mechanism where employment and growth are driven by exports (cf. Bortis, 1997, pp. 190-198; cf. Lipsey, Chrystal, 2007, p. 376).

In his book *The National System of Political Economy*, Friedrich List pointed out: "I saw clearly that free competition between two nations which are highly civilised can only be mutually beneficial in case both of them are in a nearly equal position of industrial development, and that any nation which owing to misfortunes is behind others in industry, commerce, and navigation … must first of all strengthen her own individual powers, in order to fit herself to enter into free competition with more advanced nations. In a word, I perceived the distinction between cosmopolitical and political economy" (List, 1885, p. xxvi). As we know, the gap of industrial development between China and the Western countries is very large. Without strengthening individual powers, especially purchasing powers through appropriate industrial development, the strong presence of China in the world trade is tending to cause great harm for both sides.

Deng Xiaoping's reform policies might be inspired by the theory of Friedrich List. The reforms of Deng Xiaoping are generally summed up by the ideology of the "Four Modernizations" which addressed the modernization of agriculture, industry, technology and national defence (cf. Killion, 2006, p. 86). In Deng Xiaoping's reform era China started a technical revolution. In order to develop science and technology, China brought in foreign experts from Western nations, and the country also sent many Chinese students abroad to acquire the necessary scientific and practical knowledge that would make certain expensive foreign personnel unnecessary (cf. Morton, Lewis, 2004, p. 236). Such policies would contribute to the success of creating a suitable industrial and economic development in China and making China a modern nation. Along Deng's path which reflects the views of Friedrich List, in the future, the free trade between a well-developed China and the advanced industrial countries can be mutually beneficial.

Immiserizing Growth and China

Economic growth could result in a country being worse off than before the growth. This immiserizing growth occurs when the gain in a country's social welfare arising from economic growth is more than offset by the loss in such welfare associated with an adverse shift in the terms of trade (cf. Pryor, 2007, p. 208).

This theory was first proposed by Bhagwati in 1958. He argued that if the traditional exports of a fast-growing developing country face world demand that are highly priced and income inelastic, the relative price of this good (i.e. terms of trade) will fall. If this price decline is sufficiently great, welfare falls (cf. Bhagwati, 1958, pp. 201-205; cf. Pryor,

2007, p. 211). Thus, there is a paradoxical effect of economic growth since it could bring about a decline in a nation's welfare.

In international trade, terms of trade (π) is the price of imports relative to the price of exports:

$$\pi = \frac{ep_m}{p_x} \tag{5-1}$$

where π is terms of trade, P_x is the price of export and eP_m is the price of import of a country, e is the foreign exchange rate, p_m is the imports price in foreign currency. The terms of trade determine the quantities of goods and services that may be imported for a given quantity of goods and services exported. In other words, the π could be expressed as the number of units of the importable good that can be bought with one unit of the exportable good (cf. Khan, Nsouli, Wong, 2002, pp. 309-310; Bortis, 1997, pp. 186-187).

If exports equal to imports, $p_xX = ep_mM$ (5-2)

where X and M are the exports and imports quantity.

Then $$X = \frac{ep_m}{p_x} M. \tag{5-3}$$

Combine (5-1) and (5-3), we get:

$$\pi = \frac{ep_m}{p_x} = \frac{X}{M}. \tag{5-4}$$

This means, trade balance occurs when (1) the price of the country's exports changes relative to its imports, that is, its exchange rate appreciates or (2) the quantity of the country's exports demanded changes relative to the quantity of imports it demands. The quantity of exports of one country to another country is determined by the national income in the importing country and by the relative price of the exports goods. The quantity of imports of one country from another country is determined by its own national income and the relative price of the imports goods (cf. MacBean, Nguyen, 1987, pp. 45-46).

In respect of immiserizing growth, China faces two problems:

1. “Surplus with China, profit with the US” and
2. Losing purchasing power of the Chinese workers.

“Surplus with China, Profit with the US”

As China’s Ex-Minister of Commerce Bo Xilai said, China must export 800 million shirts before it earns enough to buy one Airbus A 380 (cf. Lam, 2006, p. ix). That is, China holds the trade surplus, not yet the profit. According to the report of BBC News by Steve Schifferes, textiles and clothing accounted for 72 percent of China’s trade surplus in manufacturing in 2006. But the overall profit margins in the textile industry were only 3.9 percent – the lowest of any major industry. Chinese firms feel under increasing competitive pressures, with profit margins continually squeezed by rising factor prices, the appreciation of the yuan and government increases in interest rates (cf. Schifferes, 2007).

China’s reform and open door policy have encouraged the development of processing trade. In order to reduce the production costs and increase the profit margins, many international companies based in developed countries have transferred their low- or medium-end manufacturing industries to China. According to the Ministry of Commerce, by the end of 2006 China had attracted 704 billion USD foreign direct investment, 70 percent of which went to the manufacturing industry. The continuous growth in both the scale and number of foreign-funded enterprises enabled them to create a huge production capacity of manufactured goods in China, which boosted China’s exports. Since China’s exports are mainly contributed by foreign-funded enterprises, some countries have benefited from China’s trade surplus. Just as Ex-Minister of Commerce Bo Xilai has said, in Sino-U.S. trade, the surplus is credited to China while profits go to the United States. In Bo’s opinion, the American traders are top winners in business worldwide. They would not do business with China if they could not make profits (cf. Lan, 2007).

According to the analysis by Li Changjiu, research fellow in Center of World Affairs Studies of Xinhua News Agency, the largest China’s state-owned news agency, the following features in China-US trade are the reasons why most profits go to the US when China has a huge surplus. Firstly, China-US trade relations are rather complementary than competitive – from which the US benefits more. From 1996 to 2003, China’s trade surplus to the US accounted for 229 billion US dollars. Morgan Stanley statistics revealed that during this period, Chinese products of low price not only saved 600 billion dollars for American consumers; but also helped US manufacturers reduce costs and control inflation.

Secondly, China's exports to the US are largely processing in nature. More than 50 percent of China's foreign trade is processing trade, which made up 63.3 percent of the overall exports to the US in 2006 (worth 204 billion US dollars). Susan Shirk, former Deputy Assistant Secretary of State during the Clinton administration, reported in an article in Washington Post that nearly two-thirds of Chinese exported commodities have foreign brands by foreign-funded enterprises – mainly Japanese and US enterprises. For each Barbie doll priced at 20 US dollars in the US, only about 35 cents stay in China. MIT professor Huang Yasheng pointed out that although China takes a salary advantage in exports, it has failed to retain the profits brought in by globalization. Thirdly, US direct investment in China exceeds China's investment in the US. By the end of 2006, the US direct investment in China had surpassed 54 billion US dollars; while the figure for China's investment in the US was 957 million US dollars – only 1.8 percent of the former. Fourthly, "made in China" is actually "made in the world." To a certain degree, China has become an international centre for assembling products, the so-called world factory. For each iPod priced at 299 US dollar in 2007, the Japanese company Toshiba received 73 US dollars by providing the most expensive parts (Apple keeps no production line), other countries and regions received 60 US dollars by providing other parts, but China only got its share of 3 US dollars for assembly. The remaining 163 US dollars went to the US, including 80 US dollars for Apple. As a matter of fact, China only received one percent of the selling price. However, along with each iPod exported from China to the US, the US-China trade deficit increased by 150 US dollars. Professor Lampton from Johns Hopkins University said that if Washington imposes barriers on products exported from China, it will punish both China and the US (cf. Li, 2007).

Losing Purchasing Power of the Chinese Workers

The price of exports from a country can be heavily influenced by the value of its currency. A devaluation or fall in the value of domestic currency will make the currency cheaper and make imports denominated in foreign currency more expensive and exports less expensive. This will result in a falling in imports and an increasing in exports, since the cheaper domestic currency will make exports denominated in foreign currency less expensive for foreign purchasers. A fall in imports and an increase in exports will improve the balance of payments. But it must be noted that the devaluation of the domestic currency has to be set against the increase in national income and as the real income level (adjusted

for inflation) falls, so does consumption of goods. A percentage of the fall in consumption will most likely reflect a decreased demand for foreign goods (cf. Madura, Fox, 2007, pp. 51-53). Devaluation of the domestic currency reduces the purchasing power of the workers and causes greater inequality of wealth distribution in China.

As China and other low wage developing countries increase their participation in the global economy, there is a squeeze on the incomes of many workers, not only the unskilled, but also increasingly of semi-skilled and skilled labour. Globalization may bring workers in developing countries into more direct competition with workers in industrialized countries. Increasingly, workers in the developing world possess both the skills and the industrial experience to compete with rich country labour forces even in the industrial sector which was specialized by the rich economies in global trade. Note China's exports grow rapidly and not all of these products are low technology goods produced by unskilled workers. Further, even after a period of significant growth, China faces rapidly rising open unemployment. Many of them are skilled workers (cf. Smith, 2003, pp. 396-398). Hence, both unskilled and skilled workers are likely to come under increasing pressure. A massive unemployment naturally limits consumer purchasing power. Further, in this situation even those who have jobs tend to save instead of spending.

"Comparative Advantage" and Critique

Comparative advantage refers to the ability of one economy to produce a certain good efficiently, that is, at a lower opportunity cost than a second economy. This ability is derived from the relative economic allocation of resources, technology, and economic structures in the two countries (cf. Pearson, Salembier, 1984, p. 7). Ricardo argued that under a system of perfectly free commerce, each country devotes its capital and labour to such employments where it has comparative advantage. It is this principle which determines that for example, wine shall be made in Portugal and cloth shall be manufactured in England (cf. Ricardo, 1821a, p. 139). Trade can benefit all parties involved, as long as they produce goods with different relative costs. This benefit is called in the literature gains from trade.

Note Ricardo explicitly bases his theory on an assumed immobility of capital and pointed out that "if capital freely flowed towards those countries where it could be most profitably employed, there could be no difference in the rate of profit, and no other difference in the real or labour price of commodities, than the additional quantity of labour

required to convey them to the various markets where they were to be sold" (Ricardo, 1821a, pp. 142-143).

However, our world today is highly globalized, both goods and capital are free to move internationally and the mobility of capital between nations is much greater than Ricardo could possibly have imagined. Money can be shifted electronically with almost no effort at all. The free capital mobility totally undercuts Ricardo's comparative advantage argument for free trade in goods. Under the new globalization conditions, capital tends to flow to wherever costs are lowest, that is, to pursue absolute advantage (cf. Daly, 2007, p. 205).

Samuelson argued that good jobs, due to the bilateral trade deficit between US and China, may be lost not only in the short run. The argumentation that the total US net national product must, by the economic laws of comparative advantage, be raised in the long run (and in China, too) is totally wrong. Indeed, the consumers may have real gains in consumption and some producers have possible losses. But we must note that the gains of the American winners are not big enough to compensate the losses of the losers (cf. Samuelson, 2004, pp. 135-136). In the long run, the consumers lose their jobs and the real income falls.

In conclusion, although there are efficiency gains arising from globalization and these will be reflected in a reduction in product costs and an improvement in product availability and quality, the trade-led growth makes labour market under threat of unemployment, which opens up the possibility of:

1. falling real incomes,
2. growing income inequality and
3. increased pressure for protectionism.

The continued expansion of the supply of skilled labour in China, coupled with unemployment among skilled workers in China, opens up the possibility of declining real incomes and employment of skilled workers in industrialized countries (cf. Smith, 2003, pp. 398-399).

Motive for Protectionism

From (5-2) we know, in trade balance

$$X = \pi M. \qquad (5\text{-}5)$$

Let $b=b_1+b_2$ be the import coefficient, that is, the proportion of the imports M to the total social product Q,

$$M = bQ= (b_1+b_2)Q \qquad (5\text{-}6)$$

where b_1Q are the necessary imports which must be imported in order to make the production happen and can be called imports of basic goods, since each country must import certain goods which can not be domestically produced for institutional reasons (e.g. the presently prevailing international division of labour) or for natural reasons; b_2Q are the non-necessary consumption and could be termed luxury imports, e.g. cars, video recorders, television sets, certain types of food and drink. The coefficient b_2 reflects dependence on abroad at the social and cultural level (cf. Bortis, 1997, p. 195).

Combine (5-5) and (5-6), the foreign balance can be written as

$$X= \pi (b_1+b_2)Q. \qquad (5\text{-}7)$$

If normal output Q is to be raised to approach the full employment level, the import coefficient $b=b_1+b_2$ must be reduced to keep the equilibrium of the foreign balance with exports and the terms of trade given: in the long run, exports must pay for imports because steadily increasing indebtedness leads to insuperable difficulties. However the coefficient b_1 can not be reduced: necessary imports have to be kept for the production. Thus, the luxury imports b_2Q have to be reduced if a full employment policy is pursued.

Hence in an open economy the approach to full employment require a certain 'official' protectionism with respect to luxury imports, or rather the unnecessary imports. This may not reduce the international trade volume in the long run. Based upon the principle of comparative advantage, once the major trading partners enjoy positions of near-full employment, the volume of international trade may expand and thus raising welfare everywhere. However, to secure full employment, the 'employment' represented by the external employment mechanism has to be accounted; this is a necessary social precondition for enjoying the welfare effects of international trade (cf. Bortis, 1997, p. 196).

Upon foreign indebtedness, China is the creditor country and US is the debtor country. According to Bortis, there are two phases of indebtedness. In the first phase, debt is

gradually built up. Interest payments and repayment of debt are negligible in relation to new capital inflows. In the second phase, the debt levels are high and the debt service is high relative to new capital inflows. In the first phase, creditor country (here China) enjoys export surpluses:

$$X > \pi M. \qquad (5\text{-}8)$$

The financial means flowed from creditor country (China) to debtor country (US) results in an export surplus and in a favourable impact upon output and employment in China. The debtor country (US), on the other hand, enjoy in the first phase, the privilege of being able to import more than they export:

$$X < \pi M. \qquad (5\text{-}9)$$

Hence in the first phase the growth of indebtedness is favourable to both China and US. But the situation changes in the second phase as the debt service, interest payments and prepayment of debt due dominate the picture. If gross capital flows from China to US are not sufficiently high, US is forced to achieve an export surplus in order to obtain the foreign exchange required to service the debt, which means US will import fewer goods from China (cf. Bortis, 1997, p. 196-197). Falling off in exports will have persistent negative effects on China's employment and output, if China does not try to find another solution.

Threat of the US Dollar Crash

The currency of the United States has a particular unique scenario, because the US dollar is not only the currency of a country, but also acting as a world currency. The US can print dollars, i.e. expand its money supply when needed, import goods from China with that money. However, the printed money is not exchanged but simply deposited back in the US by China and used for international trade or refund the debt. This relationship relies on the confidence of China in the US dollar. If one day that confidence is gone, the value of the dollar could fall very rapidly as happened in the early 1970s (cf. Madura, Fox, 2007, p. 55). In this case China will lose great value of its foreign exchange reserves in US dollar.

Under the dollar crash threat, for the first time China launched schedule of selling yuan-denominated bonds on the international market in September 2009. The 6 billion

yuan (about 876 million USD) bond sale will expand the international use of the Chinese currency, though it is still not a currency on the global free exchange market. This could be a new option for worldwide currency investors, including central banks, who want to diversify away from the dollar or to be more precise, evade the risk of potential crash of the dollar (cf. Chinese Finance Ministry, 2009; cf. Fernando, 2009).

China's large foreign exchange reserves in US dollar are the result of China's great trade surplus over the last decades. In the bilateral trade relations between US and China, China has trade balance surplus, but keeps buying the US national debt and depositing the money of "gains of trade" in the US. It looks like a fair deal for both sides, however, this is just a distorted view. In order to ensure that the US continuously imports the products made in China, China has to spend great part of the earnings from the exports to US to purchase US national debt, which means, the US has on one hand the Chinese products and on the other hand the Chinese lending. The risk for China is that China is merely a world factory with almost nothing in hand at present, and its products are paid with foreigners' IOU[11], which will be cashed later with the prerequisite that the US economy will never break down and the US dollar will never collapse.

We can use the following equations to demonstrate the above mentioned relations:

$$Q = C + I + G + (X - M) \tag{5-10}$$

$$Y = C + S + T \tag{5-11}$$

where Q is the social product (output), C, I, G, X, M are the consumption, gross investment, government expenditure, exports and imports respectively, Y is the national income, S, T are gross savings and taxes respectively. $(X - M)$ is the net exports. National product are comprised of consumption, investment, government expenditure and net exports, whereas the components of national income include consumption, gross savings and tax revenues.

In macro-economic equilibrium, the social product Q equals national income Y (cf. Meier 1995, p. 215), so that

$$C + I + G + (X - M) = C + S + T. \tag{5-12}$$

[11] IOU is an acknowledgment of debt. Short for "I owe you".

This leads to

$$(I + G) - (S + T) = (M - X). \quad (5\text{-}13)$$

These two equations demonstrate the relationship between national income analysis and balance of payments analysis. An internal imbalance in the macro economy between national expenditure and national saving (i.e. a resource gap) leads to an external imbalance in the balance of payments (i.e. a foreign exchange gap). The external financing fills the resource gap and the foreign exchange gap, thereby allowing national expenditure $C + I + G$ to be greater than the value of products produced domestically $C + S + T$ (cf. Meier, 1995, pp. 213-215), which leads to deficit in balance of trade, i.e. $X - M < 0$.

When a country spends more on investment I and government expenditure G than it is earning from the resources released through private savings S and taxation T, i.e. $(I + G) - (S + T) > 0$, there is a resource gap in the economy, and then imports M will be greater than exports X. The foreign exchange gap must be filled by a capital inflow from overseas through official development assistance, commercial bank loans, or private foreign investment. When a country releases insufficient resources at home by savings and taxes, the only way to validate investment and government expenditures in real terms is through importing goods and services. Foreign resources are then filling the domestic resource gap and this country has thus trade balance deficit ($M > X$). This trade balance deficit affects the balance of payments and creates a foreign exchange gap, which has to be filled by losing foreign exchange reserves or through external financing. The capital inflow to fill the foreign exchange gap creates real capital transfer in the form of imports greater than exports (cf. Meier, 1995, p. 215). The United States are in the abovementioned situation with low private savings and negative government savings (i.e. $G > T$). Because the investment has been high in the United States, the inflow of foreign capital has to be very large. For the United States, the source of external financing is mainly the purchase of national debt by China and other great economies. However, China's situation is just converse to the United States. However, high investment might be the common point of both economies.

In the year of 2004, the value of China's exports to the US and imports from the US accounted for 196,682.0 million USD and 34,427.8 million USD. Surplus in the trade balance $(X - M)$ was 162,254.3 million USD (cf. U.S. Census Bureau, 2005a). The government savings $(T - G)$ = 24,165.68 – 28,486.89 = -4,321.21 million yuan (cf. China

Statistics 2005, 2006), which was equal to about -540.15 million USD. That is to say, the national debt was very small. The growth was driven by high investment and high exports. As a consequence, the domestic consumption rate was very low and the savings rate very high. The demand came mainly from the foreign countries. However, the US government savings in the same year *(T - G)* = 590,413,778 - 1,406,175,267 = -815,761,489 million USD (cf. U.S. Census Bureau, 2005b). The US national deficit was about 188,790 times that of China. The high national debt, especially foreign debt has been playing an important role in US economic growth by providing the American households consumer loans, with low savings rate and high consumption rate in the US as consequence.

Table 5.9 Selected economic indicators for the comparison between the economies of China and the United States in 2007 (in billion USD)

	China	the United States
Gross national income	3,120.9	13,886.5
Gross domestic product	3,280.1	13,811.2
Household final consumption expenditure in % of GDP	34	71
General government final consumption expenditure in % of GDP	14	16
Gross capital formation in % of GDP	44	19
External balance of goods and services in % of GDP	8	-6
Exports (Merchandise)	1,217.9	1,163.2
Imports (Merchandise)	955.8	2,017.0
Current account balance	249.9	–738.6
Domestic credit provided by banking sector in % of GDP	136	240

Source: World Bank, 2009a, pp. 356-359, Table 3, Table 4.

The data in Table 5.9 shows us that household final consumption expenditure in percent of GDP was very high in the United States (71 percent), but very low in China (34 percent). The government expenditure to GDP ratios of both economies were very close to

each other. The imports of the United States were much more than its exports, however, China was just at the opposite pole. Domestic credit provided by banking sector in percent of GDP in the United States was nearly 2 times that in China, which indicated that the American were used to consuming with consumer loans, however, the Chinese still preferred to consume with cash.

For the reason of the global financial crisis started in 2007 in the US, some American analysts said that the credit and housing bubbles which caused the financial crisis were fed by the constant flow of large sums of money into U.S. securities markets from China. The Chinese capital inflows helped reduce conventional mortgage rates to record low and helped create a subprime mortgage industry. Both China and the US have made mistakes (cf. Hill, 2009).

China has emphasized too much on exports and built excess dollar reserves that have the potential to create American financial bubbles, whereas the US has spent beyond its means, saved too little and went deeply into debt to purchase all kinds of goods from China and the rest of the world (cf. Hill, 2009). With total public debt outstanding of 11,978.60 billion USD and a population of 307.86 million in November 2009, the average debt per American individual accounted for 39,000 USD (cf. U.S. Census Bureau, 2009; cf. Treasurydirect, 2009). This record high amount of debt might be a sign of impending economic collapse.

The former US Treasury Secretary, Lawrence Summers, who served under President Bill Clinton and is now the head of Obama's National Economic Council, called the relationship between the US and its newer creditors, such as China the "the balance of financial terror". In the year of 2008, foreign countries owned nearly a quarter, about 2.6 trillion USD, of the total US national debt. They also owned more than 14 trillion USD in US assets – which is more than the total US national output. According to the statement of the US authorities, one of the reasons they had to rescue Fannie Mae and Freddie Mac[12] was to reassure the Chinese government that US securities were really secure. If China decides to buy any more of the new debt, or just keep existing debt, then the outlook for the US bail-out plan is positive. New investors will be attracted by the increasing interest rates. However, if China really pulls out from the US security markets, then it will hurt its own investments. It is a zero sum game (cf. Pagano, 2008).

12 Fannie Mae and Freddie Mac are The Federal National Mortgage Association and The Federal Home Loan Mortgage Corporation, enterprises sponsored by the United States federal government for purpose of purchasing and securitizing mortgages in order to ensure that funds are consistently available to the institutions that lend money to home buyers (cf. Walker, Vatter, 1997, p. 114).

Lawrence Summers regarded the current arrangement as a risk to prosperity since it leaves each major economy a hostage of the other's policies. World leaders, meeting in G-20 in Pittsburgh in September 2009, adopted a framework in order to combat the worst crisis since the Great Depression and keep more durable economic growth. The aims are to reduce U.S. dependence on overseas capital to finance consumption on one side, and cut the reliance of China and other creditor nations on American consumers to buy their goods on the other side (cf. Miller, Kennedy, 2009).

According to the neoclassical economics, if the Chinese currency RMB will be appreciated, the exports from China will fall and imports will rise. Then the equilibrium of the balance of trade will be reached in this way. In reality, however, the price and quantity adjustment might not support this trend as effectively as expected. Even if China appreciates its currency, the American trade deficit and hence China's foreign exchange reserve in dollar could rise further until the Chinese production is no more cheaper than the American production. It must take a great many years until China's average wage level rises to the same level of that of the United States, and thus China's labour-intensive products completely lose their comparative advantage compared to those of the United States. We can use a famous phrase to describe this process: *Rome wasn't built in a day*. Thus, the appreciation of the Chinese currency is not the ultimate solution for reducing the trade deficit and creating jobs in the United States. We have to note that large companies of the United States have been benefiting a lot from the exports from China, or rather from the trade deficit. There is no question that the exports of low cost merchandise from low wage countries like China accelerate the loss of American jobs. Wal-Mart, which in the early 1990s advocated the ideology of "Buy American", doubled its imports from China in the period 1997 – 2002. In the next two years, Wal-Mart increased Chinese imports by 50 percent so that Chinese-made goods in the United States through Wal-Mart accounted for 18 billion USD in 2004 (cf. Fishman, 2006, pp. 102-103). In the battle for winning jobs, the enemy of the United States is not Chinese people, but rather the policies of large American companies (cf. Spotts, 2005, p. 133).

6. Government Expenditure, Private Consumption and Employment

All the analysis above shows us, China's growth through exports has become more and more difficult. New solution is principally that China must rely on domestic demand for further economic development.

The classical doctrine – known as Say's Law – which suggested that 'supply creates its own demand' involves a special assumption that the aggregate demand price of output is equal to the supply price for all volume of output, so that there is no obstacle to full employment (cf. Keynes, 2007, p. 26); in contrast, Keynes argued with the principle of effective demand that the equality between supply and demand is conditional and equilibrium between supply and demand does not necessarily command full employment (cf. Fontaine, Jolink, 1998, p. 40). Keynes wrote in *The General Theory*: "The aggregate supply price of the output of a given amount of employment is the expectation of proceeds which will just make it worth the while of the entrepreneurs to give that employment" (Keynes, 2007, p. 24). Then we have the aggregate supply function: $Z = \phi(N)$, where Z is the aggregate supply price of the output from employing N men (cf. Keynes, 2007, p. 25). On the other hand, the aggregate demand price is the "proceeds D which entrepreneurs expect to receive from the employment of N men, the relationship between D and N being written $D = f(N)$, which can be called the aggregate demand function. Now if for a given value of N the expected proceeds are greater than the aggregate supply price, i.e. if D is greater than Z, there will be an incentive to entrepreneurs to increase employment beyond N and, if necessary, to raise costs by competing with one another for the factors of production, up to the value of N for which Z has become equal to D. Thus the volume of employment is given by the point of intersection between the aggregate demand function and the aggregate supply function; for it is at this point that the entrepreneurs' expectation of profits will be maximized. The Value of D at the point of the aggregate demand function, where it is intersected by the aggregate supply function, will be called the effective demand" (Keynes, 2007, p. 25).

The principle of effective demand is linked to a theory of income distribution, where profits are a redistributed share of factor income, which is transferred to firms when prices exceed factor cost. Thus the identity and the equilibrium condition relate to separate measurements of income and output, factor cost and prices. We should note that the equality of supply and demand prices is conditional: the aggregate demand price does not

necessarily recoup the factor cost and simultaneously pay entrepreneurs the profits they claim (cf. Fontaine, Jolink, 1998, p. 41).

This chapter and next chapter will handle the essential affecting factors of the domestic demand in China: government expenditure, private consumption and social security system. An effective social security system is especially important to stimulate the private consumption in China, where the people are strongly affected by insecurity of the future expectations, and thus are willing to save today and consume tomorrow.

6.1 Government Expenditure is the Key for Development

François Quesnay, the founder of Physiocratic School, believed that trade and industry were not sources of wealth. He regarded the produce of land, the most natural and original of the factors of production, as the only true generator of wealth (cf. Perlman, McCann, 1998, p. 178). This is why he argued in his writing on the Chinese State in ancient times: The stability and duration of the Chinese system of government indicated that it was founded by itself on the natural order. The Chinese institutions were in accordance with the natural principles of a prosperous government and deserved to be a model for all governments (cf. Seitz, 2004, p. 74). Note in ancient times China didn't have the great trade surplus like today, but an agricultural economy of self-sufficiency. Quesnay pointed out in his book *China – A Model for Europe*: "Agricultural nations alone can establish fixed and lasting empires under a general and invariable government, subject directly to the immutable order of Natural Law" (Maverick, Quesnay, 1946, p. 282).

In the broader sense, an agriculture-oriented economy that Quesnay advocated several hundreds of years ago can be interpreted today as domestic-oriented economy without exports dependence in general. In the following introduction of Quesnay's theories, we will see why only such a domestic-oriented economy could enrich the whole country, especially the poverty population, thus more equitable income distribution would be made. Note reducing poverty and overcoming income inequality play decisive role in stability ensuring of a country. In the view of Quesnay, the agriculture-oriented economy of self-sufficiency in ancient China was the reason why many Chinese feudalistic dynasties enjoyed very long political and social stability for hundreds of years (cf. Needham, Harbsmeier, 1998, p. 480). As mentioned and assessed above, the rapid growth of foreign trade and exports oriented industry in China over the last 30 years caused great inside and outside challenges that forced China to change. Just like China's government announced,

the further development must be principally domestic-oriented development by increasing government expenditure in infrastructure, poverty reduction, agriculture, public services etc. The ideas of François Quesnay are of great significance to China's current economic transition from exports depending to domestic demand depending.

The nations which sell the most necessary or most useful goods have an advantage over those which sell luxury goods, because when bad times come, trade in luxury goods slackens, then in the nations which sell luxury goods, workers lose job. Further, the nation can cause its revenue to expand through proper employment of labours and in conformity with the peculiar advantages of the country (cf. Quesnay, 1962, pp. 88-89).

About the functions of the government and of private enterprise, Quesnay suggested a strategy based on a combination of private enterprise and state policy. Private investment is the key to economic development, and this "key" only works well if the state performs certain important functions. Firstly, the government has to improve the general economic climate by desisting from policies of mercantilism (cf. Mueller, 1978, pp. 154-155). Mercantilism is an economic theory which advocates that the most important way for a nation to become rich and powerful is to export more than it imports. The difference would be settled by an inflow of gold. More gold represented more wealth and more power of a nation. Thus mercantilists advocated that government should play a protectionist role in the economy by stimulating exports and restricting imports, notably through the use of tariffs and subsidies. Since not all nations could have an exports surplus simultaneously and the amount of gold in existence was always fixed, a nation had to gain only at the expense of other nations (cf. Salvatore, 1995, pp. 1-2). According to Quesnay, the government should not only introduce free trade but it should also terminate its policy of providing special privileges to certain manufacturers, because such a policy caused an artificial diversion of investment from agriculture to industry, and industrial subsidies came directly out of the net product of agriculture. Further, excessive dues and tolls along the transport routes, regional restrictions on economic activities in a country should be abolished or reduced. Finally, the whole tax system should be formed so effectively that it could remove the disincentive effects of the existing system (cf. Quesnay, 1846. pp. 295-297; cf. Mueller, 1978, p. 155).

As mentioned in chapter 2, the growth of the output Q_i^* and employment can be made by increasing the government expenditure G:

$$Q_i^* = \frac{G}{z_s\left[1-(1/k)\right]-(g+d)v} \tag{2-42}$$

In the view of Keynes, government spending financed by national debt is an effective means to stimulate the economy in recession. When government expenditure exceeds tax revenues, there is a government budget deficit, which is financed by selling bonds. The sum of all outstanding government bonds is the national debt. The bonds are sold to the central bank (government national debt), the public (private national debt) and other countries (foreign debt). According to the Keynesian economics, budget deficits have remarkable effect to keep an economy operating at full employment because public investment financed by government spending create jobs and enhance the consumption. National debt required to stimulate the economy in recession would be paid back from rising tax revenues in boom times. That is to say, the budget deficits in recession will be set off by budget surpluses in times of full employment – ensuring that in the long run the national debt would not continually grow (cf. Kennedy, 2000, p. 243).

Let's recall the equation of terms of trade to demonstrate Keynes' idea formally. In equilibrium where imports are equal to exports,

$$p_x X = e p_m M \tag{5-2}$$

$$\pi = \frac{e p_m}{p_x} = \frac{X}{M} \tag{5-4}$$

where π is terms of trade, P_x is the price of export and eP_m is the price of import of a country, e is the foreign exchange rate (cf. Khan, Nsouli, Wong, 2002, pp. 309-310; Bortis, 1997, pp. 186-187). X and M are the exports and imports quantity.

This equation can be reformulated as

$$X = \pi\,(b_1+b_2)Q \tag{5-7}$$

where $b=b_1+b_2$ is the import coefficient, b_1Q are the necessary imports which must be imported in order to make the production happen and can be called imports of basic goods, because each country must import certain goods which can not be domestically produced

for institutional reasons (e.g. the presently prevailing international division of labour) or for natural reasons; b_2Q are the non-necessary consumption and could be termed luxury imports, e.g. cars, video recorders, television sets, certain types of food and drink. The coefficient b_2 reflects dependence on abroad at the social and cultural level (cf. Bortis, 1997, p. 195).

The government revenues are comprised of savings and tax revenues:

$$zQ = sQ + tQ \tag{6-1}$$

where zQ is the non-consumed proportion of national income, sQ is the savings and tQ is the tax revenues, z, s & t are the rate of government revenues, savings and tax respectively.

In recession, the state can expend government spending in public investment through selling bonds (national debt), effective demand will be promoted, which leads to rising employment and consumption. Thus the economy will go upwards. In a business cycle, the national debt can be paid back later through higher tax revenues in the boom times. A very important remark is that the rising domestic demand financed by national debt can also enhance the purchasing power for imported products and might add nothing to the domestic development. Hence, the state has to intervene in the management of imports so that the non-necessary luxury imports will be as little as possible. This is why the protectionism comes usually in the global crisis and recession.

For the purpose of employment, the main form of government expenditure which the Physiocrats favoured was a large-scale improvement in communications and in transport by road, river and canal. Public investment in these fields would be an essential accompaniment of the private sector's effort to increase the production of its products (cf. Mueller, 1978, p. 155). This might be the key solution for China's development in the next decades. In this respect, Quesnay's ideas are of particular relevance for the economic development of China.

For the solution of the current trade imbalance, both US and China could make efforts to improve the situation. China could gradually shift to consumption-driven economic growth instead of the current export-driven type. In the *Report of the Work of the Government* (delivered at the Fourth Session of the Tenth National People's Congress on March 5, 2006), Wen Jiabao, Premier of the State Council, stated that the Chinese government "will adhere to the strategy of expanding domestic consumption and focus on increasing consumption demand and strengthening the role of consumption in fueling

economic development." He urged nationwide efforts to raise urban and rural incomes, encourage immediate consumption, in particular consumption in rural areas, and improve the consumption environment and consumption-related policies. China could also make other efforts to narrow the trade imbalance, such as upgrading its industry structure, encouraging its enterprises to invest in the US and reducing certain export incentives (cf. National People's Congress of China, 2006; cf. Li, 2008, pp. 113-114).

The US must also do more to change the situation, such as relaxing some export restrictions and adjusting certain macroeconomic polices. According to a report by the Office of the United States Trade Representative (USTR), the relative growth of imports and exports – and thus the trade imbalance are affected by macroeconomic factors outside of trade such as interest rate, exchange rate, inflation rate. In particular, economists note that differences between the US and US trading partners in national economic growth rates and patterns of saving, investment and consumption are primary reasons U.S. imports exceed exports (cf. USTR, 2006, p. 11).

An Overview of China's Domestic Market

China's domestic market scale in 2006 was equivalent to 2.7 trillion USD and its imports were over 792 billion USD, becoming the world's third largest importer. It is estimated that China's domestic market scale will be soon over 4 trillion USD, with annual imports of over 1 trillion USD. Domestic market potential of China is very large. In promoting the bilateral economic relations, the West and China should focus on the long-term benefits (cf. Li, 2008, p. 114).

The trade imbalance will not be resolved in the short term. Japan is the second largest developed country and has enjoyed a trade surplus with the US for over 40 years in the stage of development. China is still in a preliminary development stage. It is imaginable that one day the trade disputes between China and the US, instead of being resolved, might shift from the current textiles, shoes, and toys to automobiles (cf. Li, 2008, p. 114).

6.2 Inequality of Income Distribution and Consumption

As shown in chapter 4 and 5, China is experiencing increasing inequality in income distribution. Great gaps exist between urban residents and rural residents in terms of per capita income and per capita consumption. In 2003, the per capita income averaged RMB

2,622 for people living in rural areas and RMB 8,472 for those living in cities. Urban households constitute the major portion of the "middle class" in terms of consumption and are able to enjoy much more fruits of the economic development and industrialization than the rural population (cf. Yusuf, Brooks, Zhao, 2008, p. 285).

Table 6.1 Percentage distribution of expenditure in categories for urban and rural households in China, 1995-2003

Area/Expenditure category	1995	2000	2003
URBAN AREAS			
Food	50	39	37
Clothing	14	10	10
Household facilities and services	7	7	6
Medicine and medical services	3	6	7
Transport and communication	5	9	11
Education and culture	9	13	14
Housing	8	11	11
Other items	3	3	3
RURAL AREAS			
Food	59	49	46
Clothing	7	6	6
Household facilities and services	5	5	4
Medicine and medical services	3	5	6
Transport and communication	3	6	8
Education and culture	8	11	12
Housing	14	15	16
Other items	2	3	2

Source: Yusuf, Brooks, Zhao, 2008, p. 292.

As a matter of fact, urban areas in any country have automatically advantages for economic development, but in China the whole structure of budget preferences, ownership, and legal advantages has favoured cities even more at the expense of the countryside. City residents had 2-3 times the income level or consumption level of rural residents in China,

whether using per capita income or per capita household consumption measures. As shown in Table 4.2, these differences have a rising trend if we consider the last 30 years as a whole. The ratio between the per capita annual disposable income of urban households and the per capita annual net income of rural households in China was 2.6:1 in 1978 and then declined to 1.9:1 in 1985. In the next two decades it rose to 2.9:1 in 1994 at first, declined thereafter to 2.5:1 during the period 1996-1998, then increased to 3.2:1 in 2003 and also in 2004. The ratio between the urban and rural per capita annual living expenditures for consumption rose from 2.1:1 in 1985 to 2.7:1 in 1995. After that, it fell slightly in 1996 and 1997, then further increased to 3.0:1 in 2000, and reached 3.3:1 in the period of 2002-2004 (cf. Banister, 2007, p. 147). This trend could be demonstrated in Table 4.1, Table 5.6 and Figure 5.7.

Chen, Zhou have analyzed the urban inequality of China in the 80s and 90s. They summed up that the variation path of urban income inequality is marked by the effect of the different stages of reform. At the beginning of the 1980s, the urban economic system reform didn't start, Gini coefficient of urban income inequality was very low and nearly stable before 1984; since urban economic system reform started in 1985 the income inequality began to rise up. Gini coefficient increased by 12.55 percent from 0.21 to 0.24 in 1981-1990 and annual increase rate was just 1.32 percent, that is to say, the increase was quite gradual and relatively stationary in the whole 1980's. However, in the 1990s the change became faster. In 1992 China definitely began to establish socialist market economy system, urban Gini coefficient increased by 42.76 percent from 0.24 to 0.34. With annual growth rate 4.03 percent of Gini coefficient, urban income inequality came up obviously (cf. Chen, Zhou, 2004, p. 30).

According to the analysis of Yifu Lin, the Chief Economist and Senior Vice President of the World Bank, urban people can spend their entire income on living expenditures, but rural residents must spend part of their net income on production. The share of rural population's consumption in the whole consumption decreased, whereas that of the city residents increased (cf. Lin, Cai, Li, 2003, p. 224). Although both groups have more income and consumption, however, rural residents are generally worse positioned in the society than in the stage before reform and rapid growth.

Household expenditure increased in both urban and rural areas in China. However, the rate of increase in urban areas was close to 7 percent per annum between 1995 and 2003, while increase rate in the rural areas was just over 3 percent (cf. Yusuf, Brooks, Zhao,

2008, p. 291). Again, in Table 4.2 we can see the great difference between the household expenditures of urban and rural population in China from 1990 to 2006.

Table 6.2 Number of selected consumer durable goods per 1000 households in urban and rural China

Area/Item category	1995	2000	2003
URBAN AREAS			
Air conditioners	81	308	618
Cameras	306	384	454
Colour TV	898	1,166	1,305
Computers	n.a.	97	278
Hi-fi stereo component systems	105	222	269
Mobile phones	n.a.	195	901
Motor cars	n.a.	5	14
Motorcycles	63	188	240
Refrigerators	662	801	887
Video recorders	182	201	179
Washing machines	890	905	944
RURAL AREAS			
Air conditioners	n.a.	13	35
Cameras	14	31	34
Colour TV	169	487	678
Computers	n.a.	n.a.	n.a.
Hi-fi stereo component systems	n.a.	78	105
Mobile phones	n.a.	43	236
Motor cars	n.a.	n.a.	n.a.
Motorcycles	49	219	318
Refrigerators	52	123	159
Video recorders	n.a.	33	35
Washing machines	169	286	343

Source: Yusuf, Brooks, Zhao, 2008, p. 293.

Table 6.1 shows us the household expenditure in eight categories. One of the most dramatic changes is the drop in the proportion of expenditure for food. Both urban and rural households spent less on food. Expenditure on all item categories, except clothing and household facilities and services, increased during the period of 1995-2003. During China's transition from a socialist to an increasingly market economy, the government and employer have reduced the coverage and level of subsidies for many items which were at public expense. Consequently, expenditure on housing, education, and medical services increased substantially (cf. Yusuf, Brooks, Zhao, 2008, p. 291).

Another example that demonstrates the income inequality between urban and rural is the use of electronic and household applications. By 2003, three products – mobile phones, refrigerators and washing machines – were each owned by around 90 percent of all urban Chinese households, while the corresponding proportion for rural households varied between one-sixth and one-third. The ownership rate for colour TV was in excess of 130 percent in urban areas, but only half of this rate in rural areas (see Table 6.2).

Among the consumer durable goods listed in Table 6.2, all items had a higher ownership rate in the urban areas compared to the rural areas except motor cycle. Motor car ownership is still quite low in China. Given that China has a booming automobile industry, the low ownership rates may seem surprising. Number of new registrations grew from just over half a million in 2000 to 2.16 million in 2004, an average growth rate of 34.3 percent per year. This was a very small number of car consumption in such a large population (cf. Yusuf, Brooks, Zhao, 2008, p. 292).

Table 6.3 shows us the average income and expenditure of both urban and rural households by each income quintile. For each quintile the average income and expenditure of urban households was more or less twice that of the rural households. If we compare the cash income and expenditure of the rural households with that of urban households, the gap was even larger. The cash component of total income and total expenditure increased for each quintile in the rural areas. Table 6.3 shows us also the high propensity of Chinese households to save. Chinese households save a significant proportion of their earning, the only exception being the rural households in the lowest income quintile who most probably lack the resources to save. The propensity seemed to increase substantially among the high-income earners, that is, the more they earn, the greater proportion they save. Analysis of the expenditure patterns by income level shows us that there was a positive association between income and expenditure for most items except food; and at each income level the

rural households spent proportionally more on food but less on other items (cf. Yusuf, Brooks, Zhao, 2008, pp. 293-296).

Table 6.3 Income, expenditure, and savings of urban and rural households by income quintiles [13], China, 2003. (in yuan)

Characteristic/Area	Income quintile				
	1st	2nd	3rd	4th	5th
Average annual household income:					
urban	11,808	19,742	25,433	32,751	56,694
rural (total income)	7,253	10,094	12,844	16,467	28,288
rural (cash income)	4,990	7,334	10,049	13,624	25,565
Average annual household expenditure:					
urban	10,360	15,770	19,182	23,623	36,468
rural (total expenditure)	8,312	9,316	10,973	13,019	20,382
rural (cash expenditure)	6,197	7,140	8,903	11,032	18,737
Savings as % of income:					
urban	12	20	25	28	36
rural (total)	-15	8	15	21	28
rural (cash)	-24	3	11	19	27

Source: Yusuf, Brooks, Zhao, 2008, p. 294.

6.3 Factors Affecting Inequality in China

In order to find a solution for the problem of inequality in China, we should try to investigate the prominent factors affecting the income and consumption inequality of the Chinese residents. Policy implications might base on consideration of these factors.

It is clear that the relationship between the inequality and development depends on a couple of factors. Some play an essential role at lower levels of economic development while others are more important at the later stages of development (cf. Wan, 2008, p. 20). Chen, Zhou pointed out in their book that China has been experiencing the so called "dual

[13] Income quintiles: 1st quintile = low income; 2nd quintile = lower middle income; 3rd quintile = middle income; 4th quintile = upper middle income; 5th quintile = high income.

transition". That is, in view of the economic development situation, Chinese economy is in the transition from low income to middle income; in terms of the economic system pattern, Chinese economy is experiencing the change from the planned economy to the market economy. The dual transition causes all great challenges in the Chinese society and contributes essentially to the income inequality (cf. Chen, Zhou, 2004, p. 128).

Four groups of factors may affect income and consumption inequality in China: economic growth, income redistribution and social security system, infrastructure and other public goods, institutional arrangements (cf. Wan, 2008, pp. 20-22).

6.3.1 Economic Growth

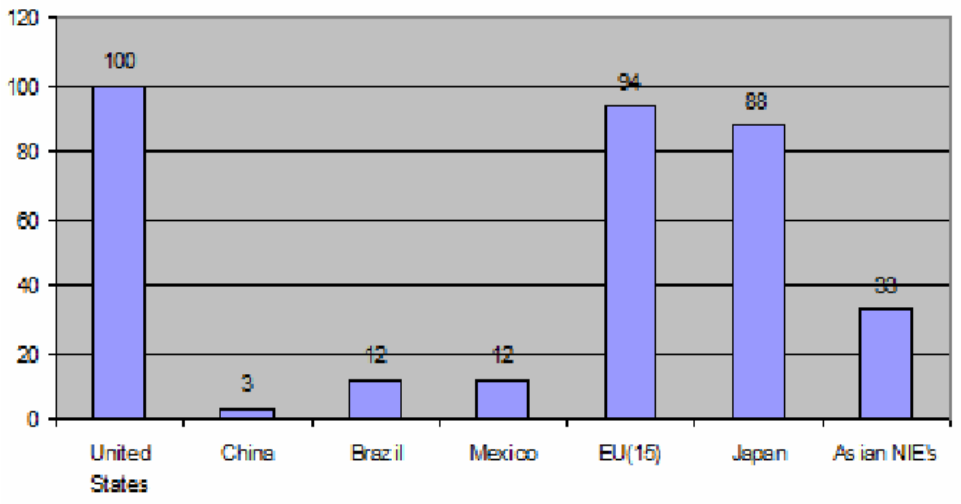
The first group of factors relates to economic growth and include economic growth rate, investment ratio (investment to GDP), level of FDI (as a proportion of GDP), trade dependence (rate of import and export values to GDP), urbanization ratio (the share of urban population in total), labour migration ratio (the ratio of rural immigrant workers to urban employment) and registered urban unemployment rate. The tradeoff between economic efficiency and equity is commonly assumed. When efficiency is the central concern, economic growth may be faster, but inequality may be enlarged, and vice versa. But on the other hand, economic growth brings also jobs which raise the incomes of the poor people and help alleviate poverty. Thus it is difficult to evaluate the overall impact of growth on inequality (cf. Wan, 2008, p. 20).

With economic growth highly depending on exports, China is known for having low labour costs and has the world's largest manufacturing workforce for more than 100 million. Manufacturing wages in China are low relative to international levels (see Figure 6.1) but high relative to rural levels (see Table 6.4). Employees in China's city manufacturing enterprises received a total compensation of 0.95 USD per hour, while the workers in rural manufacturing enterprises earned averagely 0.38 USD per hour, less than half that of their city counterparts (cf. Banister, 2005, p. 22).

With respect to urbanization and rural-urban migration, Kuznets pointed out that the increasing weight of urban population means increasing unequal distribution. The relative difference in per capita income between the rural and urban populations will not drift downward in the process of economic growth. Although there is evidence to suggest that it is stable at best, the difference tends to widen because per capita productivity in urban pursuits increases more rapidly than in agriculture. Hence, inequality in the total income

distribution should increase at the primary stage of growth (cf. Kuznets, 1955, p. 8). As a matter of fact, the internal migration of rural surplus labour from villages to cities created even higher urban unemployment rate which has been a serious problem in China since economic reform.

Figure 6.1 Average hourly compensation costs of manufacturing workers in selected economies and regions, 2002[14] [U.S.=100 (21.11 USD)]



Source: Banister, 2005, p. 32, Chart 1.

It is the large reserve of surplus labour in China's agricultural sector that drives internal migration, which in turn creates rising unemployment in the cities, that is, more inequality in the cities and also more inequality between cities and villages. In 2004, the labour force in China was approximately 768 million workers and the surplus labour accounted between 15 and 85 million. This means, between 2 percent and 11 percent of the labour force were driven to migrate to the cities in order to enter the export oriented sector with higher wages (cf. Lipschitz, Rochon, Verdier, 2008, p. 7).

[14] EU (15) are the European Union member countries prior to the expansion to 25 countries on May 1, 2004. Asian NIE's are the newly industrialized economies of Hong Kong, Korea, Singapore and Taiwan.

Table 6.4 Compensation of urban manufacturing employees and TVE[15] industry employees in selected regions in China, 2002

Province	Annual earnings (yuan)	Annual labour compensation		Monthly labour compensation		Hourly labour compensation	
		yuan	USD	yuan	USD	yuan	USD
Urban manufacturing employees:							
National average	11,125	17,152	2,071	1,429	173	7.87	0.95
Shanghai	21,957	33,770	4,078	2,814	340	15.50	1.87
Zhejiang	13,435	20,663	2,496	1,722	208	9.48	1.15
Jiangsu	11,731	18,042	2,179	1,504	182	8.28	1.00
Guangdong	14,958	23,005	2,778	1,917	232	10.56	1.28
TVE industry employees:							
National average	6,891	7,442	899	574	69	3.13	0.38
Shanghai	11,939	12,894	1,557	1,075	130	5.86	0.71
Zhejiang	10,188	11,003	1,329	917	111	5.00	0.60
Jiangsu	8,143	8,794	1,062	733	89	4.00	0.48
Guangdong	8,345	9,013	1,088	751	91	4.10	0.49

Source: Banister, 2005, p. 33, table 4.

6.3.2 Income Redistribution and the Social Security System

The second group of factors relates to income redistribution and the social security system. Income redistribution can reduce inequality, but its effectiveness depends on the rationality and efficiency of the fiscal transfer and social security systems (cf. Wan, 2008, p. 20). Social security can be seen as a kind of redistribution.

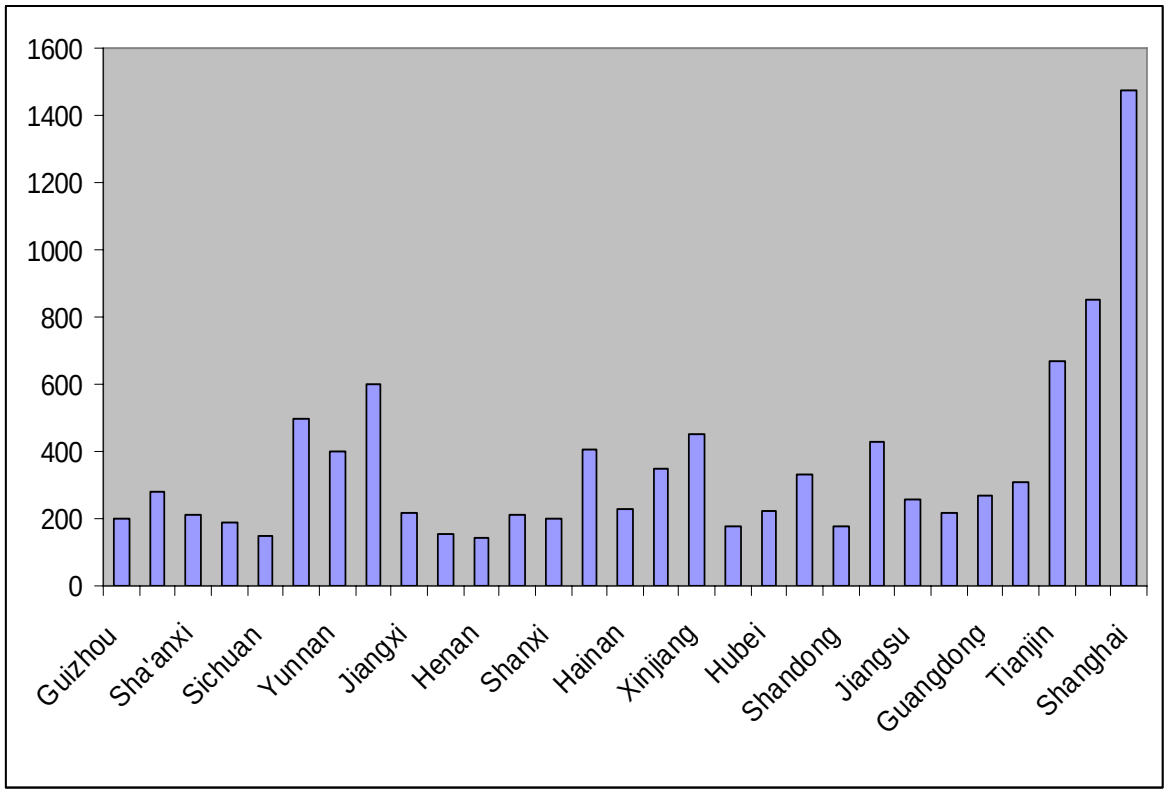
The current fiscal transfer system in China is not well designed and its function is not clearly defined. This might weaken its effectiveness in reducing inequality. China introduced Tax Sharing System in 1994, which fundamentally overhauled the revenue sharing system by shifting to tax assignments, under which taxes were levied by central

[15] TVE's are town and village enterprises.

government, local government, or shared. However, the Tax Sharing System in China had made the system more favourable to rich regions. By sharing value-added tax revenues with local governments at a flat rate by origin, the Tax Sharing System is creating more inequality (cf. Wong, 2005, p. 9).

As shown in Figure 6.2, the difference between the transfers per capita to the rich regions and those to the poor regions in China was very large. For instance, in 1998 transfers per capita to Shanghai, one of the richest cities in China, accounted for about 1500 yuan, while Shanxi, one of the poorest provinces in China, had 200 yuan transfers per capita, the ratio was 7.5:1.

Figure 6.2 Per capita transfers in China in 1998 (yuan)



Source: Wong, 2005, p. 9, figure D.

Tax rebates from the central government to local governments comprise the bulk of central-local financial transfer payments. For instance, in 2003, the total tax rebate in the eastern region, the rich region of China, accounted for more than 50 percent of the total tax rebate of the country. Rebates for value-added and consumption tax made up 52.6 percent of the total rebate; and the rebate for income tax took up over 70 percent of the total. Even

after the financial transfer payment, the per capita financial capacity in the western region, the poorer region in China, was only about 48.3 percent of that in the eastern region (cf. United Nations Development Programme, 2008, p. 106).

Other variables in the second group include the rates of coverage of the social security system, including the basic pension system, the basic medical insurance system and the unemployment insurance system which are operational in urban areas, while most rural areas are not covered. The government has been launched the project to establish these systems in recent years, and their effectiveness still needs to be examined (cf. Wan, 2008, pp. 20-21). Table 4.8 shows us the trend of China's social security from 1990 to 2006. The Government has increased year-on-year spending in health, but the public share is still low, at only about 0.82 percent of GDP, while the world average is 2.6 percent (cf. United Nations Development Programme, 2008, p. 107). To establish an effective social security system, China still has a long way to go.

6.3.3 Infrastructure and Other Public Goods

The third group of factors is the provision of infrastructure and other public goods. Public education can increase the stock of human capital within middle and low income groups and improve their employment and income earning ability. Thus, inequality might be reduced. Public infrastructure, such as transport and telecommunication, may also benefit this group by offering them more opportunities for employment and self-development. The average years of schooling, the density of highway and railroad network and the telephone coverage rate can be used to interpret these variables (cf. Wan, 2008, pp. 20-21). In general, it is estimated that the average annual cost of public works in a country accounts for 3-5 percent of its GNP (gross national product), but in developing, highly urbanizing countries such as China, expenditure in infrastructure can easily reach 9 percent of GNP per year (cf. Judd, 2002, p. 23).

For the rural basic public services, self-reliance has always been stressed and state financing plays only a secondary role. This has been partly institutionalized by the *hukou* system[16], a household registration system which creates inequalities in basic rights and opportunities between urban and rural populations. In recent years, household registration (*hukou*) has been eased, and consequently rural-to-urban labour flows have grown.

[16] *Hukou* system is a household registration system in China which classified all households as either urban or rural residents. Assigned at birth, *Hukou* registration was fixed to a particular locality and virtually impossible to change. Its chief purpose was to limit the size of cities by preventing rural leakage into urban society (cf. Campanella, 2008, p. 175).

However, the dual mode of public service delivery has not fundamentally changed. Health care, social security and many other essential services still distinguish between "urban" and "rural" systems, that is, the former still receive more public funding and the latter is more self-financed. This slows the process of narrowing disparities between rural and urban areas (cf. United Nations Development Programme, 2008, p. 104).

Generally, the development of rural areas has lagged behind that of urban areas. Policy to improve health, education, and infrastructure services especially in rural areas will likely help those who are worst off, both by encouraging rural activity (agricultural or otherwise) and by facilitating migration to the cities (cf. Winters, Yusuf, 2007, p. 27). However, migration of the rural workers to the cities as a solution is debatable, because the additional accommodating capacity of the Chinese cities, which are already densely populated, is not unlimited.

State financial support is still focused on cities. During the 10th Five-Year Plan (2001-2005), the absolute amount of rural investment from the state budget increased greatly, but the proportion of spending in rural areas decreased. From 1996 to 2000, the proportion was around 9.3 percent, and for 2001 to 2005 was about 8 percent. Lack of clarity on the spending responsibilities of each level of government resulted in weak funding mechanisms which restricted the development of rural compulsory education. This is the major reason why education funding per student in urban areas is still much higher than in rural ones (cf. United Nations Development Programme, 2008, pp. 104-105).

6.3.4 Institutional Arrangements

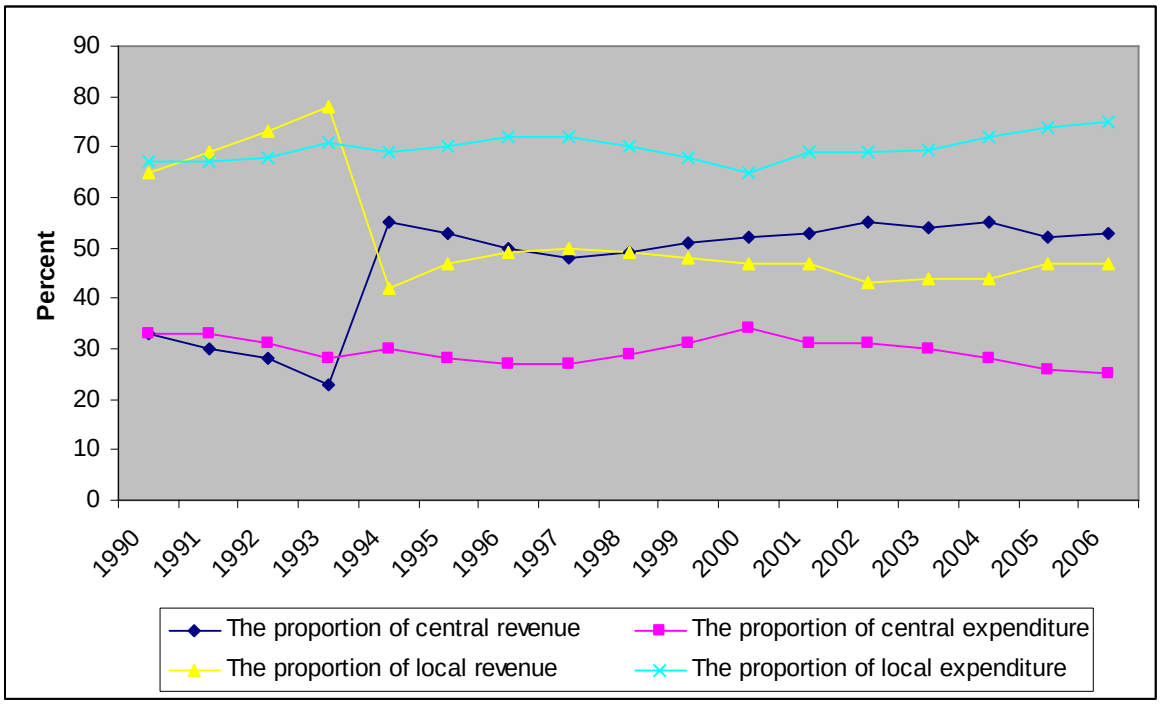
The fourth group of factors relates to institutional arrangements. As often the case for a transitional economy, China has experienced privatization of public properties. In a market economy, private property is an important means for earning income. However, privatization can lead to larger inequality in income distribution (cf. Wan, 2008, p. 21).

However, a World Bank report in 2003 shows us that there are also cases showing a reduction of income inequality arising from market development. China's enormous structural transformations included shifts from central planning to markets, from agriculture to manufacturing and services, and from a closed to a globally-integrated economy. The establishment of household responsibility system (individual household responsibility instead of collective responsibility of a community) and of township and village enterprises (TVE), accompanied by sharp increases in agricultural procurement

prices, supported agricultural productivity and allowed farmers to move away from agriculture to pursue better paid off-farm jobs. All of these contributed to the lifting of about 400 million people out of poverty at the 1 USD a day expenditure level and contributed to the job creations and poverty reduction (cf. World Bank, 2003, p. 2).

However, unemployment has become an important source of poverty and inequality in some less market oriented areas. Further, Wan pointed out that inappropriate government intervention in the operations of enterprises, unjustified government levies, corruption, and similar institutional problems may cause income inequality. Without adequate monitoring, political power will be used to allocate resources and induce rent-seeking behaviour, and this leads to unfair income distribution consequently (cf. Wan, 2008, p. 21).

Figure 6.3 Changes in the ratio of central and local financial revenues and expenditures (1990-2006)



Source: United Nations Development Programme, 2008, p. 105, Figure 3.3.4.

Uneven fiscal relationships between central and local governments have produced widening regional fiscal disparities. Since the tax-sharing reform in 1994, local financial revenue has mainly depended on the performance of the local economy. The central Government continues to collect the bulk of the country's revenue. To support

equalization, central government transferred certain transfer payment of the revenues to local governments, but the scale was too small. As shown in Figure 6.3, the proportion of central financial revenues accounted for around 53 percent of total revenues in 2006, but expenditures at the central level only accounted for about 25 percent of the country's total expenditures. Local revenue was only 47 percent of the total, but financed 75 percent of the total expenditures (cf. United Nations Development Programme, 2008, p. 106).

Public finance institutions determine the inputs in the gradual equalization of basic public services across the regions. Though China has made important progress in establishing fiscal institutions in line with the market economy, inputs for basic public services are still insufficient. China's tax revenues increased from 113 billion yuan in 1978 to 5.1 trillion yuan in 2007. The scale of the increase is indicative of the magnitude of the strengthening of the government's fiscal position, although these numbers have not been adjusted for changes in prices. In spite of marked expansion of the absolute amount of government inputs, the proportion of spending on science and technology, culture, education and health did not grow in the period 1992 – 2005. The education budget accounted for 14.9 percent of total expenditures in 2005, a slight decrease from the previous year. The Government wished to boost education spending from 2.8 percent to 4 percent of GDP, but this wish has gone unrealized, and the current spending level remains far below the average of developing countries (cf. United Nations Development Programme, 2008, pp. 106-107).

In 2006, the Government decided to define the responsibilities of central and local governments more clearly, and establish tax and fiscal systems that balance the responsibilities and financial capacities of local governments. This project is still under readjustment. The main responsibility for providing basic public services lies with local governments, but many of them lack the resources to fulfil the terms of their obligations. The central and provincial governments have strong financial positions, but responsibilities are often relegated to lower level governments. This mismatched financial capacities and responsibilities of local governments expand regional disparities in basic public services (cf. United Nations Development Programme, 2008, p. 107).

6.4 Policy Suggestions: Government Expenditure as Basis

By using a panel data modelling method, Wan (2008) examined the trend and causes of income inequality in China. The result of his analysis does not support an unconditional

Kuznets Curve[17], indicating that economic growth alone will cause a trend of rising inequality in the future in China. Most growth factors can help reduce inequality via their effects on employment. But China's fiscal transfer and social security systems are found to contribute to higher inequality because of unequal distribution of transfer payment and low coverage of the social security systems of the poor. Possibilities exist for enhancing these systems to reduce inequality and increase economic efficiency. For instance, education opportunities are unequally distributed in China, thus improving the education in underdeveloped areas can certainly help reduce the urban-rural gap of income distribution. Further, Wan concluded that marketization is negatively related to urban and rural inequality (cf. Wan, 2008, p. 30). Therefore, policies and government expenditure aimed at better governance and benefiting the poor will not only contribute to China's sustainable growth in the long run, but also help reduce inequality.

In his book, the economics professor Angang Hu (2007) at Tsinghua University listed China's five targets of anti-poverty project in the future: "further increase average income of poor peasants by 60-65 % by the year 2010, eradicate poverty population under national poverty line – abject poverty population, make great strides to eradicate poverty population under international poverty line, at least reduce by 2/3; ensure poor peasants' normal meals and basic food needs; create more opportunities of employment for poverty population, break barriers of systems against labour floating; enhance investment of human capital for poor population, offer basic public service, provide conditions for learning, absorbing and applying knowledge, extend development scopes, promote the development ability of poor people radically; realize the objective of environment protection and infrastructural construction" (Hu, 2007, p. 125). Such advices are in line with Keynes idea of effective demand, which implies that employment and thus economic development are supported by effective demand (aggregate demand) that is determined by income distribution and can be improved by government expenditure.

Combining Government Expenditure, Domestic Demand and Poverty Reduction

Hu pointed out that government expenditure aimed at increasing domestic demands should benefit rural inhabitants especially rural poverty population firstly, which can reduce the income gap between urban and rural areas, alleviate living pressure of poverty population, promote the adjustment of rural structure and increase the ability of rural

[17] Kuznets curve is the graphical representation of Kuznets's theory that economic inequality increases at the primary stage of the growth, then at a critical point decreases automatically (cf. Buckley, 2008, p. 265).

inhabitants to develop themselves so as to ease poverty. It is suggested to provide basic facilities to rural poverty population by realizing the objective of "seven provisions", namely:

1. Water provision (clean drinking-water, necessary water supply for living and producing),
2. Electricity and electric net provision,
3. Post provision,
4. Road provision (country roads or simply roads),
5. Cable provision (broadcasting and TV),
6. Telephone provision (especially public telephone), and
7. Network provision (internet especially public internet in county and village).

All these seven provisions will help farmers accelerate adjustment of the agricultural structure and have access to technology, fund, information, qualified personnel and policies to adjustment of agricultural structure; help farmers develop commodity base of agricultural products with high quality; to encourage poor farmer families to establish contractual relationship with large-scale agricultural enterprises and provide technical guide and planting information to the poor farmers; to encourage selling system of agricultural products and support farmers to store, process, transport and sell agricultural products; to increase employment opportunities of farmers; to promote the rural basic education and basic public health (cf. Hu, 2007, pp. 128-129). Such government expenditures in public services will improve the employment for the poor and thus increase the purchasing power of them.

As a matter of fact, the Keynesian way of stimulating aggregate demand by increasing government expenditure, especially in infrastructure, had been once adopted by China in 1990s. We can review Keynesian employment theory again with the supermultiplier relation (2-41) and internal employment mechanism, relation (2-42) in chapter 2. Its value has been proved by China's practice. As a reaction to the slower exports caused by the Asian financial crisis in 1998, China increased government investment in construction of infrastructure to stimulate domestic demand. From 1998 to 2000 the total government investment accounted for 1.2 trillion USD. Many infrastructure projects were underway, including the introduction of state-of-the-art technology to agriculture, and a new railway linking the north-eastern and southern regions. Thus the growth rate of GDP in 1998

reached about 7.8 percent (cf. Chow, 2007, p. 139). Promoted by government expenditure, the employment growth in China during the Asian financial crisis remained stable.

Promoting the Industrialized Operation of Agriculture and Increasing Budgetary Funds and Loans for Poverty Alleviation

The most essential inequality of income distribution in China is the disparity between rural and urban areas. The White Paper on Rural China's Poverty Reduction reported that the Chinese government will adopt a couple of ways and means in its poverty alleviation work up to 2010. Two of them can be seen as projects in the long run:

"-- Promoting the industrialized operation of agriculture. In line with the requirements for industrialized operation, farm products with resources advantages and marketability should be produced or planned and developed according to an integrated plan, so as to develop a characteristic, regionally leading industry. Great efforts will be made to develop 'cooperation between farmers and companies' and a made-to-order farming. Large and medium-sized agricultural products processing enterprises capable of developing new markets should be guided or encouraged to build raw material production bases in the poor areas and provide serialized, pre-production, in-production and post-production services for impoverished peasant households, so as to form an industrialized operation featuring the integration of trade, industry and agriculture and the coordinated management of production, supply and sale.

-- Increasing budgetary funds and loans for poverty alleviation. The state will further increase the scale of work-relief projects and, in line with the practical financial difficulties of the poor areas, strengthen financial transfer payments and implement the control of budgetary poverty relief funds with the household as the basic unit. The increased relief loans shall be used for developing crop cultivation, aquiculture, poultry raising, labour-intensive enterprises, farm produce processing enterprises, market circulation enterprises and infrastructure construction, which will help raise the incomes of the poverty-stricken people. Small amount credit loans will be extended in an active and steady manner to help needy peasant households develop their production" (Information Office of the State Council of China, 2001). These projects will increase the farmers' productivity and help them have effective access to an agricultural market. Income of the rural population will increase.

Employment Creation for Low Income Population

The main property of urban or rural low-income population is labour ability, while to be engaged in formal or informal employment is their main source of obtaining income or increasing income. Employment-oriented polices should give them priority of obtaining employment opportunities, including temporary, short-term, and flexible informal employment. The transference of agricultural labour force in large scale should be actively promoted and regarded as both the core content of China's economic developing strategies and an important measure of China's anti-poverty strategies. With the supply of agricultural exceeding demand and China's entry into WTO, the ability to increase farmers' per capita income becomes smaller and smaller, hence, farmers' labour service income and non-agricultural income should be increased and the proportion of that in farmers' per capita net income should also be increased. The central government should set down employment policies allowing farmer workers to compete justly and encourage the orderly flow and transference of rural labour force (cf. Hu, 2007, p. 130).

Up until the mid-1990s, the township and village enterprise (TVE) sector was the engine that drove employment for the peasant workers. From 1980s to 1990s TVEs provided employment for some 100 million peasants, thus easing unemployment in the countryside greatly. In the mid-1990s TVEs began dismissing workers. The slow growth of TVEs in China brought one of the most serious social problems: increasing unemployment (cf. Howell, 2004, pp. 26-27). The re-development of the TVEs is certainly one of the main approaches for the employment growth of the peasant workers. Financing emerged as a major constraint to TVE development, and prevented TVEs from getting new opportunities that came with greater trade integration. According to a survey of TVEs in four cities in China, 90 percent of initial equity was self-financed, while less than 5 percent came from bank loans. 80 percent of these firms listed finance as the most essential constraint, whereas the weak market demand was seen as a constraint at the secondary level (cf. OECD, 2001, p. 190). In order to promote employment for low income population, government expenditure should contribute to establish an effective rural finance institution to develop and regulate the credit market in rural areas. TVEs and big firms in the cities should have equal opportunities to access to the credit market.

Investment in Promoting the Abilities of the Poor People and Building Human Capital

Hu pointed out that educational investment in poverty population should be increased by a large margin; 9 years of compulsory education should be taken as a prior objective to be realized. National educational fund should be directly used to assist poverty population, such as the cost of books, living subsidy of teachers in rural areas, the input fund of constructing schoolhouse and buying equipments. The government provides funds to subsidize the children of poor families at least to accomplish 9 years of compulsory education or 12 years of education, which make them able to obtain further education and employment opportunities with the same level as those children in cities by means of "educational migrant" and get rid of poverty completely (cf. Hu, 2007, p. 131).

The importance of education in generating income has been recognized and increased significantly in China. According to the research of Xin Meng, the rate of return to an additional year of schooling in China was 3.8 percent in 1988, 5.2 percent in 1995 and 8.8 percent in 1999, which is more than double the rate in 1988. If poor households are unable to pay enough educational expenditure, their children receive worse education than children from rich households. This difference in educational investment will bring even larger differences in future income. This means, investment in education is related to intergenerational income mobility. Therefore, the government should provide poor households assistance to smooth their educational expenditure (cf. Meng, 2006, p. 103).

Another important content of anti-poverty project is to invest in people's health and to diminish health poverty, directly provide basic public health service to poverty population. What the government should do is: directly establishing medical treatment salvation fund, giving subsidy to clinical service expenditure, family planning expenditure and women's childbearing expenditure of poverty population, and adopting assisting projects with low cost, high income, high social benefits and wide coverage. The government should also widely spread knowledge of public health care, meal and nutrition, enhance the ability of poverty population to get population health capital and prevent diseases, subsidize the doctors who work in poverty areas irregularly or for a short term and provide medical service to poor people. Only when the government invests in people's health and education, enhances developing abilities of poor people to support themselves, knowledge poverty and human poverty can be alleviated and the high degree of inequality of income distribution can be eliminated (cf. Hu, 2007, pp. 131-132).

Strengthening the Incentives of Government Officials to Effectively Deliver Basic Public Services

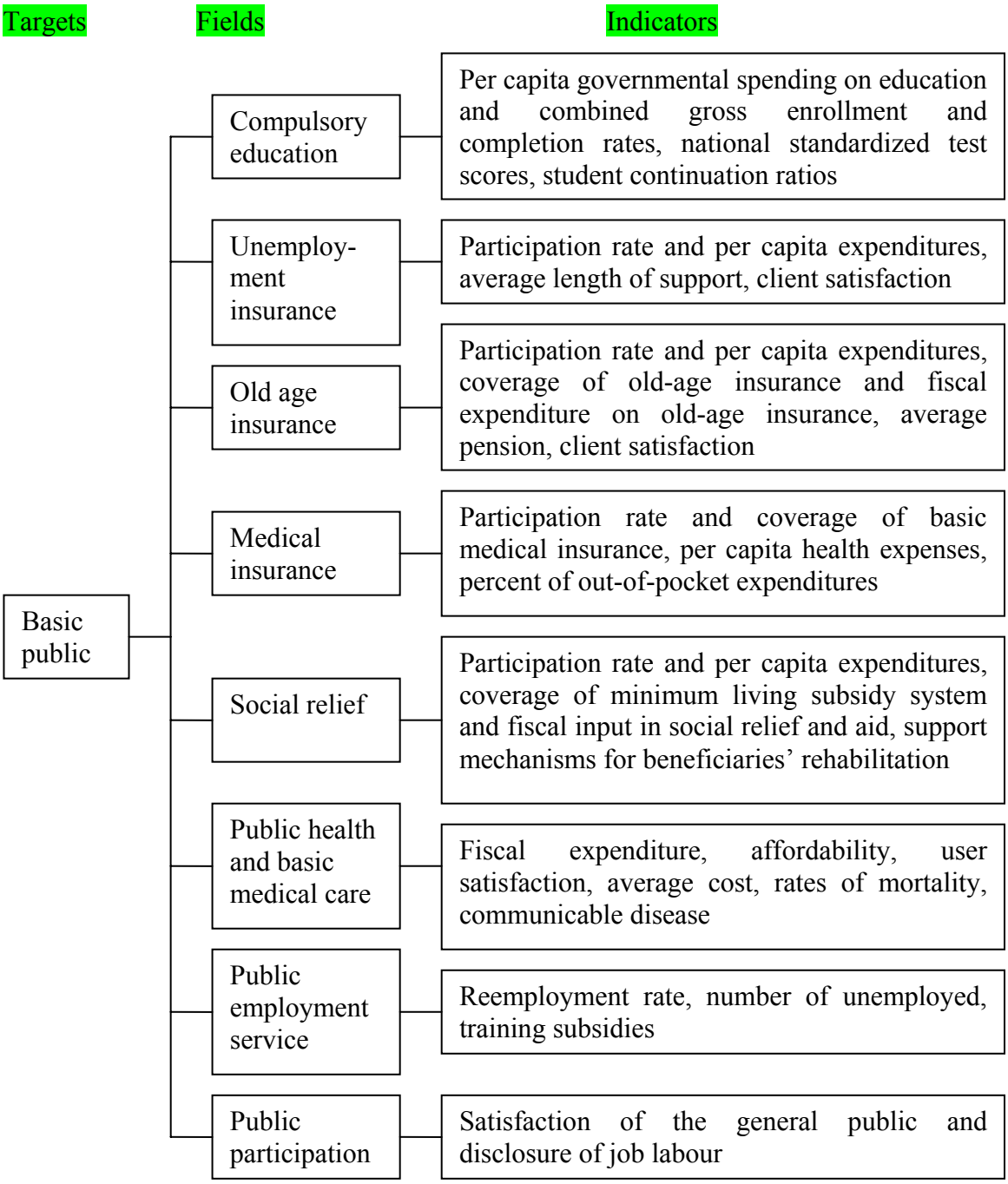
Institutionalized systems to evaluate the effectiveness of public services, and link the promotions of government officials to their performance in service delivery, can serve as a powerful incentive mechanism to equalize access. According to the Human Development Report China 2007/08, the current transparent and rules-bound government performance assessment systems are still at an experimental stage. In China, there has been a widespread tendency to evaluate the officials' performance based on economic indicators (like GDP) rather than on targets and indicators measuring the quality of basic public services. The Government should set targets, which can frequently capture important distinctions in quality that is directly related to outcomes of the public goods. Indeed, only quantitative measures such as inputs, number of staff, number of buildings etc., with which China is used to reporting the success, can not effectively reflect the real improvement of public services (cf. United Nations Development Programme, 2008, p. 111).

A functioning performance appraisal system can be instrumental in equalizing services, improving efficiency, encouraging government staff to fulfil their responsibilities and establishing a foundation for enhanced government accountability, said Premier Wen Jiabao in 2006. Hence, it will be a powerful incentive guiding the behaviour of government departments responsible for basic public services. The system should be based on incentives for public servants to do their duties, a precondition for the effectiveness and efficiency of public policy implementation. A well-functioning accountability system assures the quality of policy decision-making. The government is to link appointment and promotion of cadres to assessment of their performance in basic public service provision, through creating indicators of public service provision that will form the basis for evaluating the performance of the officials in public service. This will change their perception of GDP as a hard indicator and the provision of public services as a soft one, and let them be responsible to meet the needs of the general public (cf. United Nations Development Programme, 2008, p. 131).

Evaluation of the Government's performance should give a prominent position to performance in basic public service delivery. As shown in Figure 6.4, targets set in public service provision should increasingly be outcome oriented. Evaluation methods should be innovative, open and transparent, and involve the participation of local users of basic

public services and civil society organizations (cf. United Nations Development Programme, 2008, p. 131).

Figure 6.4 Performance assessment indicator system of basic public services



Source: United Nations Development Programme, 2008, p. 132, Figure 4.1.

6.5 Promoting Consumption-driven Development

In the Keynesian consumption function, a certain proportion of current income the people spend gives the multiplier its power. Without this proportion, the increase of government expenditure does not have the multiplied effect on the increase of national income (cf. Nattrass, Wakeford, Muradzikwa, 2003, p. 43). Further, Keynes would support "all sorts of policies for increasing the propensity to consume. For it is unlikely that full employment can be maintained, whatever we may do about investment, with the existing propensity to consume. There is room, therefore, for both policies to operate together; – to promote investment and, at the same time, to promote consumption, not merely to the level which with the existing propensity to consume would correspond to the increased investment, but to a higher level still" (Keynes, 2007, p. 325). Thus, rising consumer spending and increasing government expenditure are both of decisive importance to the further economic development in China.

It is true that almost all the highly developed East Asian economies, such as the Four Asian Tigers (Taiwan, Singapore, South Korea and Hong Kong), have been maintaining exceptionally high growth rates and rapid industrialization through exports of products and services, but for a gigantic "continental" economy such as China, the level of consumption is ultimately the main determinant of economic growth in the long term (cf. People's Daily, 2000). As analyzed in the chapters above, if China continues its economic growth mainly through exports, on one side, the income growth of China's workers must be slowed down in order to ensure the export advantages, the domestic consumption growth will be impeded, the income distribution will be more unequal; on the other side, the industrialized countries have a rising unemployment problem. Even supposing the industrialized countries don't implement the policy of protectionism, but production sectors of these economies would be soon totally damaged by cheap Chinese-made products that flood the domestic market.

On the contrary, if an economy is more consumer-centric and less export-dependent, capital and resources will be allocated more efficiently, employment will be promoted, and the benefits of growth would spread more equitably (cf. Devan, Rowland, Woetzel, 2009). Good employment and a relative fair income distribution will, in turn, increase domestic consumption. Being led by private consumption is the healthy way of economic development.

6.5.1 Keynesian Theory of Consumption

Keynes summed up the principle of effective demand that income depends on the volume of employment in a given situation of technique, resources and costs. Consumption depends on the level of aggregate income and, therefore, on the level of employment, when there is no change in the propensity to consume. The effective demand is the sum of the amount which the community is expected to spend on consumption and the amount which it is expected to devote to new investment. The amount of labour which entrepreneurs will employ depends on the effective demand. The volume of employment in equilibrium depends on the aggregate supply function (note the aggregate supply is equal to effective demand in equilibrium), the propensity to consume and the volume of investment. Keynes called this principle "the essence of the General Theory of Employment" (Keynes, 2007, p. 26). An insufficiency of effective demand will inhibit the process of production and may bring the increase of employment to a standstill before full employment has been reached. In a community where the major income is wage income, the community has a tendency to consume the most part of its output, thus the marginal propensity to consume[18] is very large, so that a modest measure of investment will be sufficient to provide full employment; whereas a wealthy community where the major income is no longer wage income, but property income, it is no more the case. Instead of purchasing more ordinary consumer goods, the wealthy people would try to save money or find other investment opportunities which make them keep rich (e.g. purchase of antiques or luxury villas) but add nothing to employment. Thus the marginal propensity to consume will be weaker. The working of the principle of effective demand will reduce the actual output as well as the employment (cf. Keynes, 2007, p. 26-28). This means, consumption quote of wage income is greater than consumption quote of property income, however, saving rate of wage income is less than saving rate of property income. Thus, a relative equal income distribution may promote the individuals' consumption.

Formally, we can see the conclusion above in the supermultiplier relation again (details see chapter 2):

$$Q^* = \frac{G + X}{z_s\left[1 - (1/k)\right] + \pi(b_1 + b_2) - (g + d)v}. \qquad (2\text{-}41)$$

[18] Marginal propensity to consume is the change in consumption that produced by one unit change in disposable income. Keynes defined it as dC_w/dY_w, where dC_w is the change in consumption in terms of wage units, dY_w is the change in disposable income in terms of wage units (cf. Keynes, 2007, pp. 102-105). The increase in wage income will be consumed rather than be saved.

The leakage coefficient $z_s = 1 - c_s = s_s + t_s$ indicates the fraction of non-consumed part of the income and $\left[1-(1/k)\right]$ is the share of property income. If the income distribution is very unequal, the consumption coefficient c_s is small, z_s is great and also the property income $\left[1-(1/k)\right]$, thus the output will decline (cf. Bortis, 1997, pp. 142-154, pp. 166-168; Bortis, 2003, pp. 461-467). With declining output, more workers lose their jobs, the individuals' have less purchasing power, then the aggregate consumption decreases.

The internal employment mechanism, which is derived from the supermultiplier relation,

$$Q_i^* = \frac{G}{z_s\left[1-(1/k)\right]-(g+d)v} \tag{2-42}$$

shows us that the state can enhance the output and employment by increasing government expenditure G. In the long run, investment is derived demand (since $S=I$ and saving is a pure residual). Output and employment depend, in principle, upon the relation between government expenditures and the leakage (z). The latter is dependent upon income distribution. There is a negative association between unequal distribution and employment (cf. Bortis, 1997, p. 190). The individual's purchasing power and household consumption depend strongly on the level of employment, because principally the wage income will be consumed but the property income will be saved. More unequal distribution means less consumption, less production, thus less employment and even less consumption. Such a chain reaction will put the economy into recession.

6.5.2 Purchasing Power and Consumption Market in China

Overview of China's Private Consumption

With a population of 1.3 billion people, China's nominal GDP accounted for US 1.9 trillion USD in 2005. However, according to the purchasing power parity adjusted estimate, China's real purchasing power could exceed 8 trillion USD. The United States and Japan, as the largest economy and the second-largest economy, stand at a total purchasing power of about 12 trillion USD and 4 trillion USD. That is to say, in terms of real purchasing power, China could now rank as the second-largest economy in the world. But China's purchasing power is strongly concentrated in major cities in the East Coast of

China, such as Shanghai, Beijing, Shenzhen etc. The amount of consumers from the top ten cities is only 4 percent of the total population, but they have 22.6 percent of the total purchasing power. The impact of foreign direct investment (FDI) on China's economic development has been recognized, but owing to the fact that most of FDI flows to the coastal areas, the inland population can hardly increase their income. The income inequality is the major reason for the purchasing power disparity. A small share of the population living in costal areas benefited from the large part of China's growing income. Two-thirds of the whole population lives in rural areas without retirement pension and unemployment benefits (cf. Kotabe, 2007, pp. 27-28). The lack of social security has a negative and significant effect on total rural consumption in China. Indeed, the households with great uncertainty are more likely to consume less and save more. This would impede the further economic development of China.

Table 6.5 Household consumption expenditure

Year	Level (yuan)			Urban/Rural consumption ratio	Index (Preceding Year=100)			Index (1978=100)		
	All	Rural	Urban		All	Rural	Urban	All	Rural	Urban
1980	238	178	489	2.7	109.0	108.4	107.2	116.5	115.4	110.2
1985	446	349	765	2.2	113.5	113.3	111.1	185.2	195.7	141.3
1990	833	560	1596	2.9	103.7	99.2	108.5	229.2	215.4	190.9
1995	2355	1313	4931	3.8	107.8	106.8	107.2	345.1	282.9	303.2
2000	3632	1860	6850	3.7	108.6	104.5	107.8	491.0	371.3	391.1
2001	3869	1969	7113	3.6	105.7	104.5	103.2	518.8	388.0	403.6
2002	4106	2062	7387	3.6	106.5	105.2	104.2	552.5	408.1	420.5
2003	4411	2103	7901	3.8	106.5	100.3	106.3	588.5	409.5	447.2
2004	4925	2301	8679	3.8	107.4	103.4	106.4	632.3	423.5	475.7
2005	5463	2560	9410	3.7	107.9	107.6	105.7	682.3	455.7	502.8
2006	6111	2848	10359	3.6	109.3	108.6	107.6	745.8	494.9	541.0

Source: China Statistical Yearbook 2007 CD-ROM, 2007, Table 3-22.

The average Chinese family saves astonishingly 25 percent of its discretionary income, about six times the savings rate of US households and three times the rate of Japan's. Indeed, China's savings rate is 15 percentage points above the GDP-weighted average of the whole Asia (cf. Devan, Rowland, Woetzel, 2009). As a matter of fact, the Chinese tend to low private consumption and low private investment. Both major consumers and major investors for 'Made in China' mass-produced goods come from industrialized countries. Thus, China clearly has a long way to go from the "world factory" to the "world market".

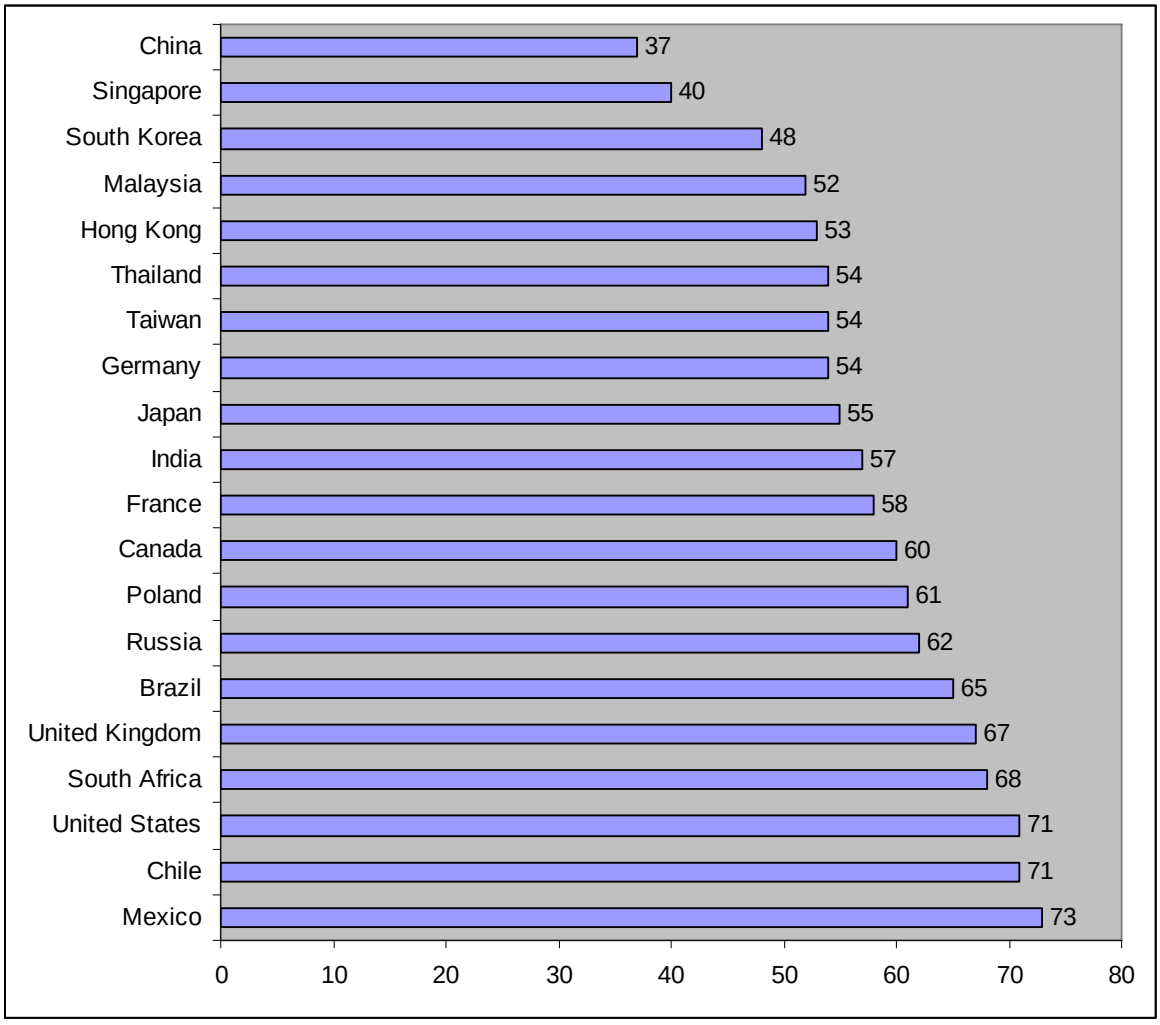
Table 6.5 shows us that both rural and urban consumption expenditures have grown in the last 30 years. But averagely the urban consumption expenditure grew faster than the rural consumption expenditure. The urban/rural consumption ratio (i.e. the average urban consumption expenditure divided by the average rural consumption expenditure) reflected also the severe inequality of the income distribution in China. In the year of 1980, the urban/rural consumption ratio was 2.7, that is to say, the consumption level of the urban households was averagely 2.7 times that of the rural households. However, in 2006 the urban households' spending in consumption was 3.6 times that of the rural households.

According to the Classical-Keynesian theory, a more fair income distribution will have a positive effect on the improvement of private consumption, to be more precise, additional effective demand is created if profits decline and wages rise. Consequently aggregate demand rises, because the propensity to consume of wage-earners exceeds the fraction consumed out of property income (cf. Bortis, 1997, p. 165). A more fair income distribution means more wage income and less property income. The economic development is governed ultimately by effective demand, which, according to the internal employment mechanism, depends on government expenditures, income distribution and investment activity (cf. Bortis, 1997, p. 170). Indeed, the unequal income distribution is a barrier to the consumption-driven growth path for China.

Private consumption in China accounted for 890 billion USD in 2007, making the country the world's fifth-largest consumer market, behind the United States, Japan, the United Kingdom, and Germany. In 2007 China has become the world's second-largest economy in terms of purchasing power parity (see table 3.2). However, relative to China's population and level of economic development, the purchasing power of its most consumers has fallen behind far away. In 2008, the country's consumption-to-GDP ratio was 36 percent, which is only half that of the United States and about two thirds those of Europe and Japan (cf. Devan, Rowland, Woetzel, 2009). As shown in Figure 6.5, even

compared the other three largest developing economies – Russia, India and Brazil, China still has the lowest level of domestic private consumption ratio.

Figure 6.5 Private domestic consumption as percentage of GDP, 2008

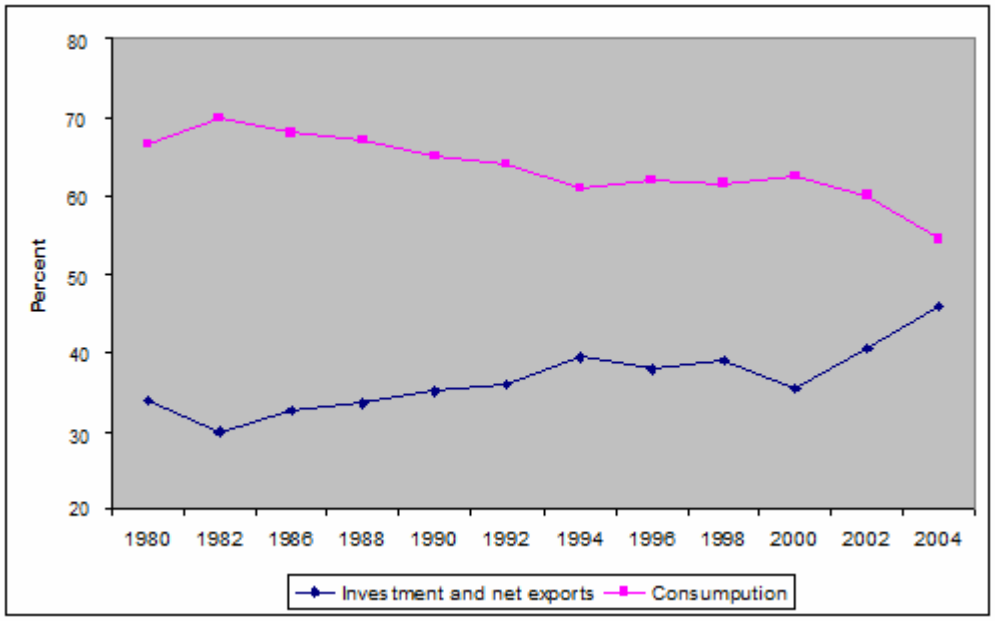


Source: Devan, Rowland, Woetzel, 2009, Exhibit 2.

At the same time, the share of domestic investment and net exports to GDP has increased steadily (see Figure 6.6). Typically, in the initial stages of development of an economy, investment and net exports are the main driver of growth. Hence it is not surprising that consumption share declined in the early stages of China's development (cf. Aziz, Cui, 2007, p. 5). Along with the rapid growth, China's consumption-to-GDP ratio has dropped by nearly 15 percentage points since 1990. It continues to shrink since the global financial crisis in 2008. Although falling consumption rates are common in

developing economies, the speed of this decline is much faster than in any developing economies in the history. In the United States, private consumption was always above 50 percent of GDP, even during the full-scale industrialization drive of World War II. In Japan and South Korea, consumption also remained above 50 percent during periods of rapid industrialization after the World War II (cf. Devan, Rowland, Woetzel, 2009).

Figure 6.6 Consumption, investment and net exports in percent of GDP



Source: Aziz, Cui, 2007, p. 5.

There are both behavioural and structural reasons that cause uneven consumption in China. Rural Chinese tend to save a higher share of their incomes than urban Chinese because rural residents have almost no social safety net. However, most urban residents are secured by the social insurance. As rural residents continue to migrate to the cities, the savings rate might decline (cf. Kalish, 2006, p. 7). The majority of the Chinese population is now still living in rural areas with low average income levels. Even in urban areas, the discretionary spending power of the residents is not very big except a relatively small amount of elites. Chinese savings rates have been very high, meaning that the rapid GDP growth has been driven primarily by investment and exports rather than by consumer spending (cf. Hawksworth, 2007, p. 21).

As mentioned above, one of the major driving powers of the Chinese consumers' low consumption and high saving behaviour is the lack of social safety net. The country's consumers oversave and underspend because they are not sufficiently secured by the social insurance system. As a common sense, economists believe that consumers save in order to smooth their lifetime consumption. If they expect that their income will diminish substantially during retirement, they have to save today in order to maintain their living standards in the future. In addition, consumers must save if they have to bear certain extraordinary expenditures such as healthcare by themselves. In urban China, state-owned enterprises were traditionally responsible for pensions and healthcare. But today it is no more the case. As many of state-owned enterprises have been privatized, the social safety net financed by the companies has been reduced or even eliminated. The individuals feel more insecure and what they can do is nothing else than to save. It is very crucial to note that Chinese consumers had virtually no savings at the beginning of the economic reform in 1980s (cf. Kalish, 2006, p. 7). According to a survey by China's Ministry of Health, only 49.6 percent of urban and less than 20 percent of the rural population was covered by health insurance in 2003 (cf. OECD, 2005, p. 185). In the same year, only 14 percent of China's workforce was covered by unemployment insurance. In 2003 the pension scheme covered totally 116 million workers, which accounted for 16 percent of all employed workers, plus 39 million retirees (cf. Bergsten, et al., 2008, p. 116). In this aspect, the high savings rate in China today can be considered as a strong reaction to the rising insecurity expectation of the consumers for their future.

In order to quantify the reasons of the high savings rate in China, McKinsey's China Consumer Center conducted a survey of 6000 consumers at random in 2005 (see Figure 6.7). The result showed us that concern about health care costs was the largest driver of China's high private savings rates (50 percent of respondents), followed by the need to save for retirement (43 percent) and the need for purchasing real estate (36 percent). The Chinese cultural factor played still an important role so that 30 percent of the respondents regarded saving as a virtue.

Keynes (1936) made a very similar conclusion of eight main motives of individuals to save in his book *The General Theory of Employment, Interest and Money*: "(i) To build up a reserve against unforeseen contingencies; (ii) To provide for an anticipated future relation between the income and the needs of the individual or his family different from that which exists in the present, as for example, in relation to old age, family education, or the maintenance of dependents; (iii) To enjoy interest and appreciation, i.e. because a

larger real consumption at a later date is preferred to a smaller immediate consumption; (iv) To enjoy a gradually increasing expenditure, since it gratifies a common instinct to look forward to a gradually improving standard of life rather than the contrary, even though the capacity for enjoyment may be diminishing; (v) To enjoy a sense of independence and the power to do things, though without a clear idea of definite intention of specific action; (vi) To secure a masse de manoeuvre to carry out speculative or business projects; (vii) To bequeath a fortune; (viii) To satisfy pure miserliness, i.e. unreasonable but insistent inhibitions against acts of expenditure as such" (Keynes, 2007, pp. 97-98).

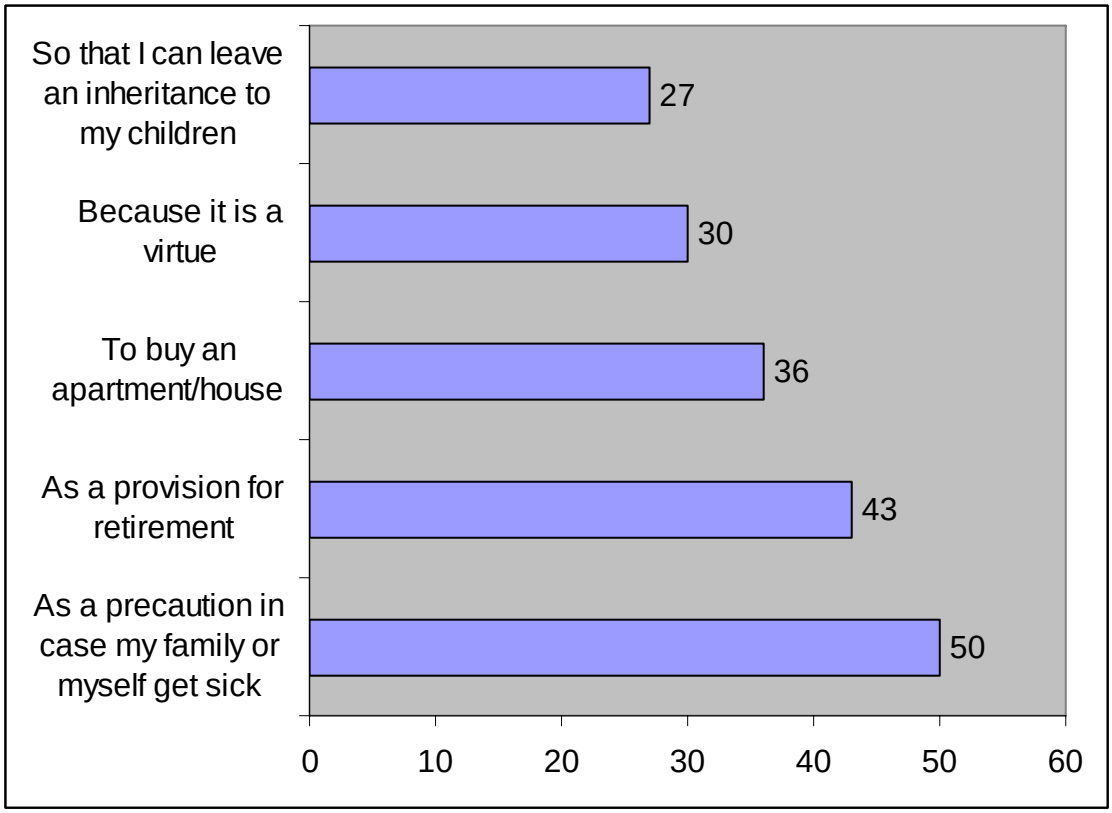
The government has now begun to invest more in the social safety net. But even if the social safety net is improved dramatically, it must take time to make the deeply ingrained behaviours change. It might take a generation for Chinese citizens to trust in a strengthened social safety net and consequently save less and consume more (cf. McKinsey Global Institute, 2006, p. 62).

The frugality of the Chinese consumers is also produced by structural features that restrict consumptions' share of the national income. As shown in Figure 6.8, Chinese households income accounted only for 56 percent of the GDP. However, this share is 60 percent in Europe and more than 70 percent in the United States (cf. Devan, Rowland, Woetzel, 2009). The saving rate has been rising especially since the late-1990s, when the state owned enterprises started to reform to reduce drastically their burden of providing social welfare for their employees. Increased uncertainty over pensions, health, and education may have been a factor in the fall in consumption share (cf. Aziz, Cui, 2007, p. 6). But there is still no estimation, how significant the influence of this factor is.

Further, the consumer finance is quite new in China. The Chinese consumers have only very limited access to credit market and they are still used to borrowing money through the networks of families and friends instead of banks. Large-ticket purchases, such as automobiles, are usually paid for with cash. Despite the large size of the Chinese banking sector, consumer loans made up only 13 percent of total loans outstanding in 2006 (cf. McKinsey Global Institute, 2006, p. 63). The major customers of the Chinese banks were still the enterprises. Traditionally, the lack of consumer credit market in China forced the Chinese families accumulate savings to finance the purchase of consumer durables. Savings rate (especially for younger households) will decline if the growing demand for consumer durables is going to be financed through the development of consumer credit (cf. Winters, Yusuf, 2007, pp. 116-127).

Figure 6.7 Reasons for saving in China (2004)

Percent of respondents; N=6,000



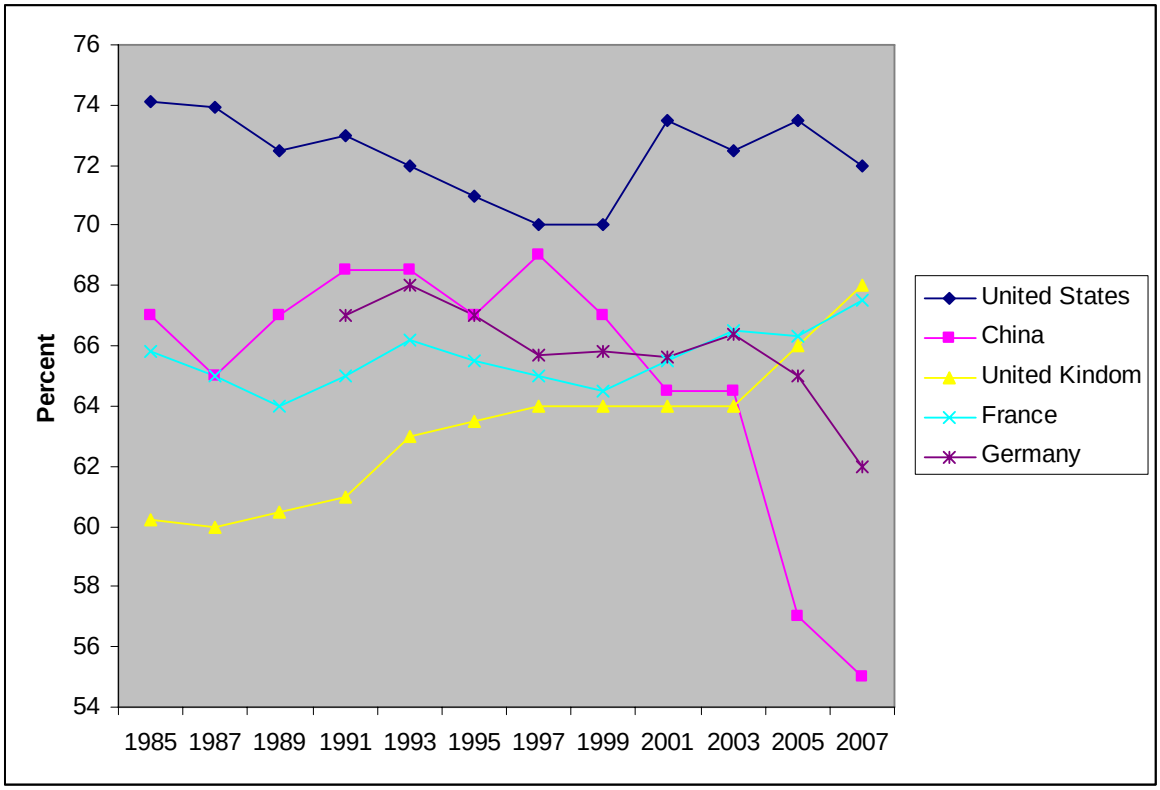
Source: McKinsey Global Institute, 2006, p. 62, Exhibit 3.4.

Compared to all other major economies, China has the lowest household income to GDP ratio. Low relative private income discourages Chinese consumers from spending and the people who are living in a society without sufficient health and retirement protections must logically save a lot to secure their future by themselves.

In recent years, however, the situation has begun to change. Along with the progress of urbanization, more and more rural residents are moving to urban areas. Population in urban areas accounted for around 43 percent of the total population in 2005, compared to just 23 percent in 1985. The average income levels have risen rapidly in the cities, leading to the emergence of a sizeable and fast-growing urban middle class. Further, the Chinese government is aiming to boost the contribution of consumer spending for a sustainable economic development, supported by rapidly developing consumer finance markets (cf. Hawksworth, 2007, p. 21). China's consumer market has an enormous potential. Moreover, foreign banks participated in the Chinese financial system starting in December

2006. When supported by consumer financial system, it is possible that Chinese consumers will spend more share of their income to consume. In the Chinese history, people had to save a lot in order to purchase real estate. Yet as consumer credit becomes widely available, consumers will be able to smooth purchases of real estate thereby reducing the necessity of saving (cf. Kalish, 2006, p. 7). But it is still too early to detect a trend.

Figure 6.8 Household income as percentage of GDP



Source: Devan, Rowland, Woetzel, 2009, Exhibit 3.

We should also note that China's household income is, to some extent, underestimated. Thus the consumption rate of the Chinese can not be calculated very precisely. Gollin (2002) explained why, as shown in statistics, poor countries are more likely to have low shares of employee income in GDP than rich countries. Principally, there are two significant affecting factors. First, bad technology of the developing countries in agriculture results in low output, which slows down the income increase of the farmers in large quantities. Second, in some countries, the self-employed account for a huge fraction of the workforce, but their non-wage compensation is not easy to be considered properly. As a result labour income is badly underestimated by the employee compensation

measure (cf. Gollin, 2002, pp. 462-466). These two factors really exist in China. The agricultural technology in China is still underdeveloped, so that many farmers are cultivating the land with traditional tools or even with hands. In the past twenty years, a large amount of farmers moved from the agriculture to the manufacturing sectors. Compared the past, more and more people are self-employed (see Table 6.6). Without professional survey across the board, it is impossible to calculate the compensation of the migrant workers and the self-employed precisely. Therefore, it is conceivable that the household income to GDP ratio might not be as low as the data in statistics.

Table 6.6 Total labour force and self-employed persons at year-end in urban and rural areas in 2006 (10,000 persons)

Year	Total	Urban Areas		Rural Areas	
		Subtotal	Self-employed	Subtotal	Self-employed
1980	42,361	10,525	81	31,836	
1990	64,749	17,041	614	47,708	1,491
2000	72,085	23,151	2,136	48,934	2,934
2003	74,432	25,639	2,377	48,793	2,260
2006	76,400	28,310	3,012	48,090	2,147

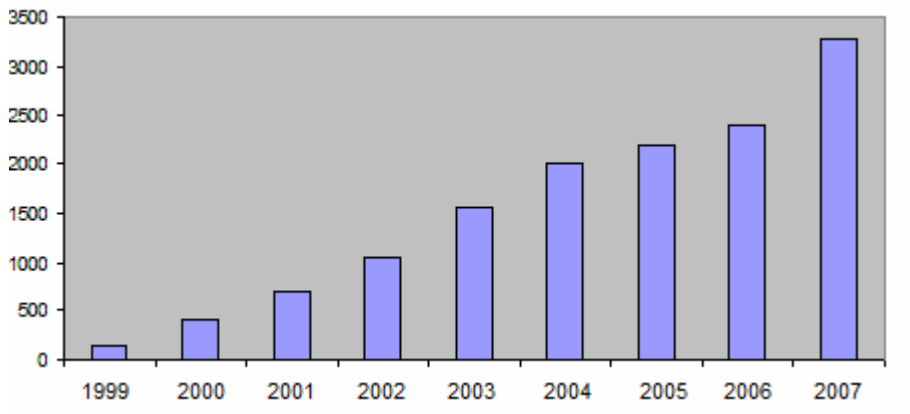
Source: China Statistical Yearbook 2007 CD-ROM, 2007, Table 5-2.

Performance of Consumer Finance in China

Consumer finance is still relatively new in China. Along with rapid economic growth, rising incomes, falling birth rates and household sizes, a consumer revolution had taken place in China. All real estates are on the market for sale after the welfare distribution of houses ended in July 1998. Accompanying the housing reform, the People's Bank of China launched the personal consumer credit policy and introduced "consumer credit" to Chinese households. Consumer credit for auto ownership has also been introduced in 2002. Today the ability to buy on credit is transforming China and meanwhile the consumer finance creates a challenge for China's economic policy makers (cf. Zhang, Sun, 2006, p. 79). Since 1997 China's consumer finance has been growing rapidly, with the total amount

outstanding of consumer loans increased 250 percent annually in the period 1997 – 2001. The consumer finance market in China is likely to remain fast growing in the foreseeable future. Home mortgage loans are still the most dominant one of the variety of consumer finance products in China. Large national commercial banks still play the leading role in consumer finance market. Just like the income distribution, the regional distribution of consumer finance was also uneven in present China. Consumer finance businesses were mostly concentrated in large cities and developed coastal regions (cf. He, Fan, 2002, p. 17). This suppressed the increase of the effective demand generated by the consumption of the farmers and seriously impeded economic development.

Figure 6.9 Outstanding consumer credit growth in China (billion yuan)



Source: Shen, Yan, 2009, p. 52, Graph 1.

As shown in Figure 6.9, the outstanding consumer loans accounted for only RMB 0.14 trillion at the end of 1999, by the end of 2007, it reached RMB 3.28 trillion, representing an average annual growth rate of 48 percent. With the rising household incomes, consumer loans became an increasingly important asset class for commercial banks. The proportion of consumer loans outstanding in total RMB bank loans in China rose to 12.5 percent at the end of 2007, from 1.5 percent in 1999 (cf. Shen, Yan, 2009, p. 51). The main lenders to consumers in China today are commercial banks and several auto financing corporations. Mortgage loans are still the dominant consumer credit, whereas auto loans, student loans and loans for the purchase of large durable goods have been growing rapidly in recent years. In order to promote the development of the household credit market, the People's Bank of China has launched a series of credit policies. The basic framework of supporting

and regulatory measures has been spelling out to promote the development of consumer finance (cf. Shen, Yan, 2009, p. 52).

China's outstanding residential mortgage loans increased averagely 64 percent annually and at the end of 2007 reached RMB 2.7 trillion, which was 142 times that of 1997 (see Figure 6.10). By the end of 2007, mortgage loans accounted for 82.5 percent of total outstanding consumer loans. According to the mortgage survey of 20 big cities conducted by the People's Bank of China in 2007, the average size of a home mortgage loan was RMB 274,000 (about 40,000 USD), the average maturity was 15.6 years and the average down payment was 37.4 percent. Today, state-owned commercial banks, joint stock commercial banks, local banks and foreign banks in China all provide mortgage loans to homebuyers. However, the four main state-owned banks (Industrial and Commercial Bank of China, Agriculture Bank of China, Bank of China and China Construction Bank) still dominate and account for about 68 percent of total mortgage lending by banks. Commercial banks provide 79.4 percent of total housing loans, while local Housing Provident Fund Centers provide 11.9 percent (cf. Shen, Yan, 2009, pp. 52-53). Housing lending from commercial banks has become the main channel of raising funds for housing reform in China. Very important, it also becomes an important macro-monitoring means of the government over real estate markets (cf. Zhang, Sun, 2006, p. 80). Today, the housing loan interest is very flexible in China. The central bank has adjusted the housing loan interest several times in order to ease the tension of the overheated real estate market. Further, China is very prudent with the housing loan and has a very high housing loan interest since the reform of housing reform. At the end of 2008, the housing loan interest in China was 6.53 percent for the mortgage loan with a maturity more than 5 years (cf. Industrial and Commercial Bank of China, 2008).

According to the analysis by Yanchun Zhang and Guofeng Sun, a consumer credit expansion can make a central bank's monetary policy more effective. Without consumer credit sector, monetary policy must rely on the relatively narrow and indirect interest rate channel to affect consumption. The development and expansion of the consumer credit sector increases the effects of monetary policy on the consumption demand and total output effectively. The consumer credit sector improves the efficiency of the interest rate adjustment. After introducing the consumer credit sector into the economy, the changes in the interest rate directly affect consumers' behaviour and subsequently stimulate aggregate consumption demand and aggregate output. Further, the existence of the consumer credit sector provides more scope for central bank to affect real economy by using monetary

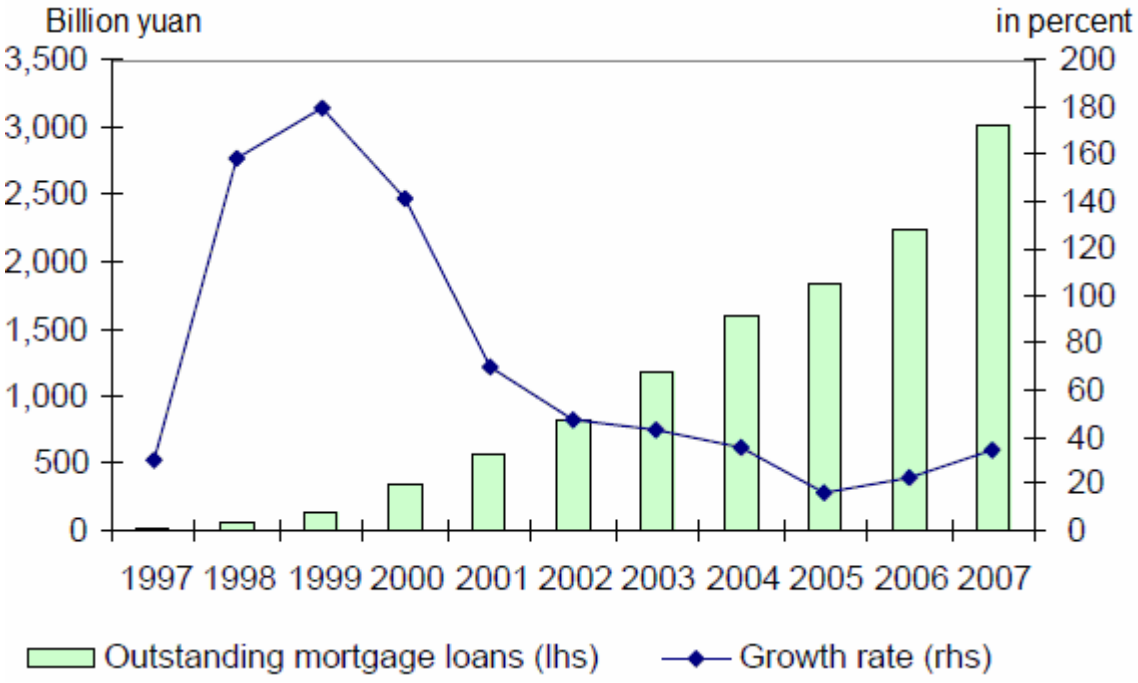
policy (e.g. adjusting the interest rate). When all consumers are purchasing by cash, the central bank is only able to affect firms' borrowing through the credit channel. The consumer credit sector improves the efficiency of the monetary transmission mechanism through both the interest rate channel and the credit channel. The consumer credit causes more monetary injection so that credit service producers must hire more labour and increase the production of consumer credit. Thus monetary injection increases both consumption and production (cf. Zhang, Sun, 2006, p. 87). With a well-controlled consumer credit market, the central bank can effectively implement monetary policies to stabilize economic fluctuations.

In order to control both consumer credit and business credit, the People's Bank of China should encourage the development of the consumer credit sector. The main monetary policy instruments for a central bank are money supply and interest rates. When the People's Bank of China injects money to the economy to stimulate the aggregate demand, it may face the problem that the increase in loan availability does not necessarily lead to a significant increase in the investment demand. Furthermore, the investment demand is much more volatile than the consumption demand. The development of consumer credit sector can help to relieve such concerns since the consumption demand is complementary to the investment demand and usually less volatile than the investment demand (cf. Zhang, Sun, 2006, p. 88). It is convincible that without expectation of enough consumption demand the investors will not invest, no matter how good the interest rate is. Although monetary policy affects the consumption demand directly through the consumer credit sector, China must be very careful with the liberalization of consumer finance market, or more precisely, the liberalization of the interest rates. The financial crisis starting from 2008 in the United States shows us again that the financial market is not able to self-regulate. That should be a good lesson for China.

New regulations issued by Chinese banking regulators in 2009 give local and foreign banks and consumer finance specialists greater access to the market, in the form of consumer finance companies. At the beginning, such financial companies are restricted to offering instalment loans to retail customers, they will probably participate in the unsecured consumer-lending sector quickly and at a great scale. The further deregulation of credit cards allows overseas banks to issue RMB-based ones. These banks have now a chance to develop the ability to serve the broader market. To assure responsible lending and borrowing, the government must strengthen credit bureaus, improve financial education, support "new to credit" products (for instance, low-limit or collateralized credit

cards) etc. It is recommended by McKinsey Global Institute that regulators and lenders must work together to improve risk management, especially the ability to identify organized credit card fraud; the government must become better at spotting national and local credit bubbles to reduce the risks of a financial crisis; further, China must have the ability to manage the risks and get ample room to expand consumer credit safely (cf. Bellens, Bosshart, Ewing, 2009, p. 7).

Figure 6.10 Mortgage loan growth in China



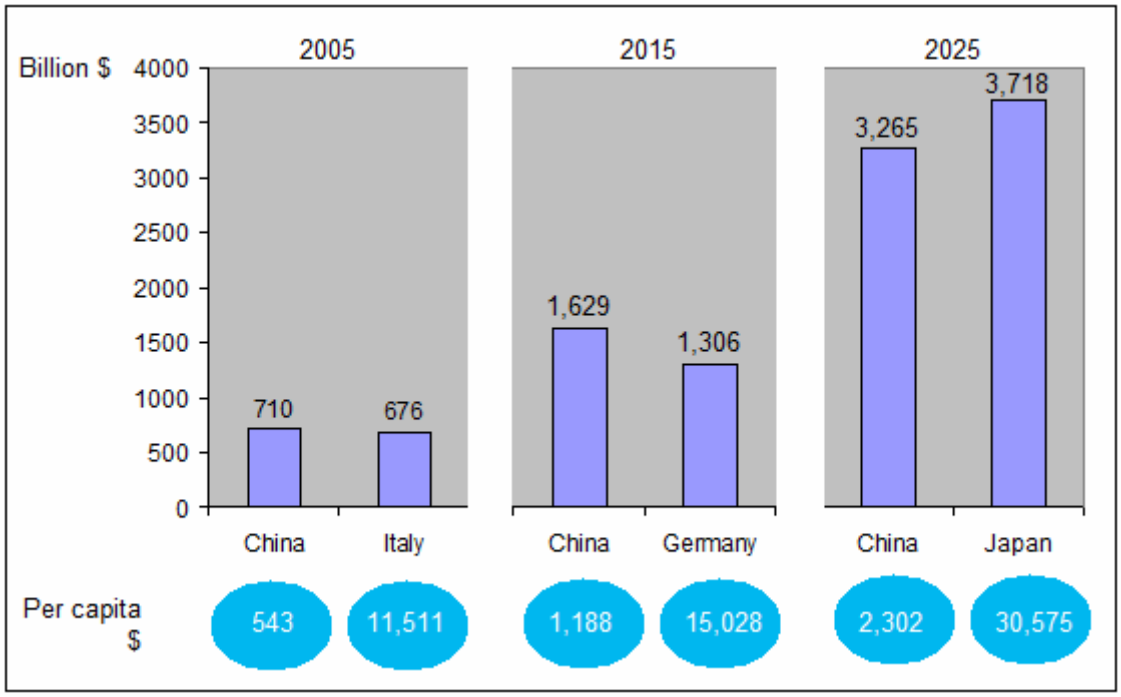
Source: Shen, Yan, 2009, p. 53, Graph 2.

Prognosis of the Trends for Consumption

China's consumer loans growth has accelerated. First, the growth in disposable income pushed the development of consumer loans forward. From 2003 to 2007, the average annual GDP growth accounted for about 10.6 percent. In the same period, the average disposable income of Chinese citizens living in urban areas increased by RMB 5,314 to RMB 13,800, or 62.7 percent. Second, the development of the social security system, including the pension system, the public health system as well as low-income and disability support system is stimulating consumer demand. The social security fund has expanded significantly since 2001 and reached 70 billion USD by the end of 2007, an

increase of more than 600 percent. Third, the credit environment improved gradually with the development of market infrastructure. The People's Bank of China has been developing the National Corporation and Individual Credit Information Database since 2003. By the end of 2007, the number of corporations in the database reached 6 million, and the number of individuals was over 600 million. Based on a borrower's credit record, commercial banks can price loans appropriately and meet different consumers' financing needs effectively (cf. Shen, Yan, 2009, pp. 56-57).

Figure 6.11 Aggregate private consumption, 2005-2025

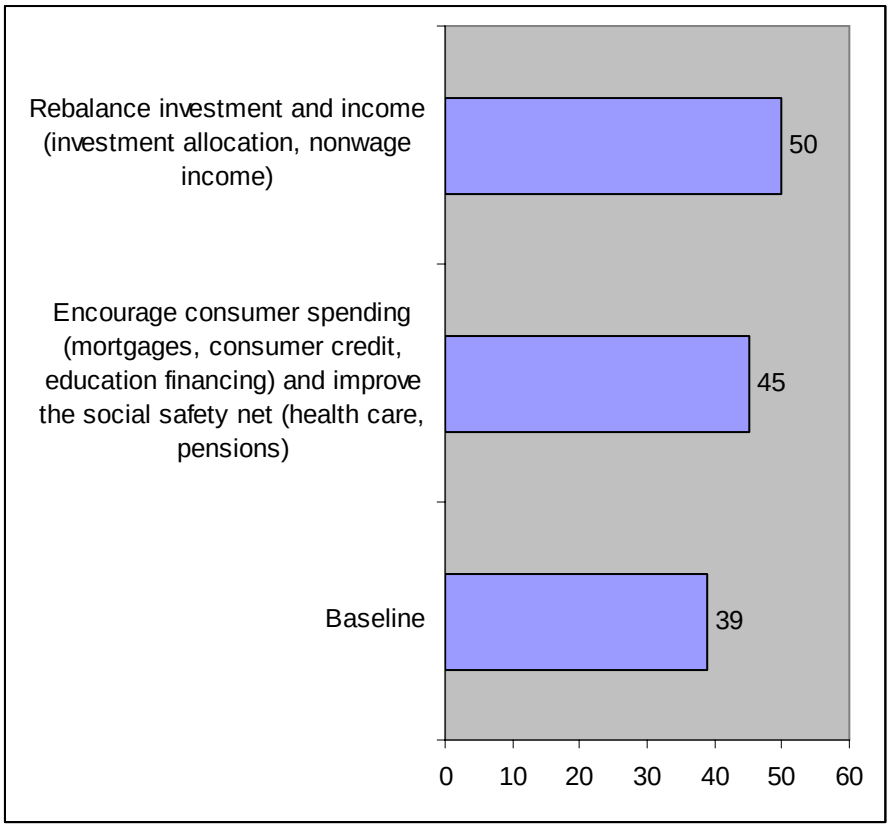


Source: McKinsey Global Institute, 2006, p. 69, Exhibit 3.13.

Powered by the spending of its rising urban middle class, China will grow into one of the largest consumer markets in the world. As the combined share of the lower and upper aspirants in the urban population increases from 39 percent in 2006 to 57 percent in 2010, their aggregate disposable income will increase from 54 percent to 69 percent by 2010 (cf. McKinsey Global Institute, 2006, p. 66). China's overall consumer market ranked in 2006 at about equivalent size to Italy's, making it a fairly mid-size market, although China had 22 times the population of Italy's. Per capita spending in China was less than 5 percent of the Italian level. By 2015, rising per capita incomes and China's enormous population will

cause it to surpass Germany at the aggregate level, and by 2025 become the third-largest consumer economy in the world, just behind Japan and the United States (see Figure 6.11). However, per capita spending will still be at levels well below those developed countries. The urban population in China on its own will be one of the world's largest markets – with 3.7 trillion RMB (approximately 447 billion USD), in consumer spending it has overtaken South Korea and by 2025, with 19.2 trillion RMB (approximately 2.3 trillion USD) annually (cf. McKinsey Global Institute, 2006, p. 70). We should note that the McKinsey Global Institute made this prognosis in the year of 2006 without consideration of the global financial crisis starting from 2007. Due to the global financial crisis and its different impacts on different economies, the economic development of both the developed world and China will perhaps have great variation compared with the prognosis.

Figure 6.12 Tools for raising consumption (Private domestic consumption as percentage of GDP)



Source: Devan, Rowland, Woetzel, 2009, Exhibit 1.

As shown in Figure 6.12, McKinsey Global Institute considered three scenarios for the growth of Chinese consumption rates over the next 15 years: (1) Without any new action to raise consumption, China's consumption will rise to 39 percent of GDP, which means three percentage points more than the current level, leaving the country heavily dependent on exports and government-led spending for continued growth. (2) By implementing the policy to encourage consumer spending and improving social safety net, consumption could account for nearly 45 percent of GDP. This level is still well below consumption levels in other major economies. (3) If China's leaders successfully rebalance the investment and raise the private income, the private consumption will reach 50 percent of GDP by 2025. This could bring China's consumption rate in line with those in the developed nations and China's economy would enter a new phase. According to the estimation by McKinsey Global Institute, China's such comprehensive reform would also contribute substantially to global growth and enrich the global economy with 1.9 trillion USD a year in net new consumption (cf. Devan, Rowland, Woetzel, 2009). Indeed, it is not easy to reach the goal of the third scenario. China's government must encourage private spending with improvement of the employment and a fundamental reform of the social security system.

6.5.3 Strategies to Boost Consumption

Promoting domestic consumption demand requires that the growth of household spending and/or government expenditure increase faster than the combined growth of investment and net exports (cf. Bergsten, et al., 2008, p. 115). The Chinese citizens have today a very low consumption rate because of the unstable revenue expectations which result mostly from employment pressure and expected reform on social security, housing, and education. Employment and the reform of social security system will affect China extensively. Promoting stable growth and enhancing consumption should begin with optimizing social security system and expanding employment (cf. Shi, 2001, p. 196). The government needs to increase the share of income going to households – by increasing transfers and subsidies – and to increase infrastructure to promote development of the rural areas (cf. Lim, Hausman, Spence, 2006, pp. 3-4).

The following two steps are important for China to effectively enhance consumption: (1) Create jobs by providing good market access conditions for unemployed and laid-off workers. In the course of economic development, the agricultural sector has a great surplus

labour and many employees are laid-off from state owned enterprises. These rural redundant labourers and laid-off employees need to be gradually transferred and reemployed. This problem is a kind of reform cost, which affects social stability. During employment reform, policies must be implemented to develop small and medium-sized enterprises and to encourage communities and individuals to establish small businesses. Meanwhile, the labour market should be developed further, by setting up professional advisory agencies. (2) Accelerate the pace of improving social security system with focus on elderly workers in state-owned sectors. To establish employment mechanisms and social security system is an objective of China's market economy during the course of transition. In the last years, various welfare and security reform measures have been adopted because of the rising instability of revenue and employment system, and the rising prices of medical care, education, and housing, which are the major causes for the low consumption rate and high savings rate in China. Again, the expectations play a decisive role in the economy since without positive expectations the consumer would not consume enough and consequently the investors would not invest. In order to stabilize expectations, the country has to ensure social security reform so that historical contributions of retirees must be recognized and the benefit which they deserved should be ensured; laid-off workers should obtain enough compensation for living expenses. The fiscal authorities must ensure the solvency of social security system, levy social security taxes effectively, expand social security coverage to all enterprises and institutions, and provide stable and reliable funding sources for social security of citizens (cf. Shi, 2001, pp. 196-198).

Bergsten, et al. (2008), the authors of the book *China's Rise –Challenges and Opportunities* suggested that the government could promote consumption via fiscal, financial and exchange rate policy. In the fiscal policy aspect, the government could cut personal taxes, increase government consumption expenditure, or introduce a dividend tax on state-owned companies. Financial reform could increase interest income received by households, thus raising household disposable income and consequently consumption. Appreciation of the yuan would simultaneously reduce net exports and give the government possibility to promote the inland economic development. As mentioned, the export-oriented enterprises are mostly located in the east coast and big cities in China, so that most of the Chinese farmers can not really benefit from the rapid economic growth. Domestic development will promote the living standards of the farmers and generate more effective demand. The government has greater flexibility in use of the interest rate policy. When required, the central bank can raise the real interest rates on bank lending so that

China's excessive rate of investment will be reduced, and a successful transition to a more consumption-driven growth path will be made (cf. Bergsten, et al., 2008, pp. 115-116).

The increasing government expenditures on health, education, welfare and pensions could add to domestic consumption demand. The very limited share of the population covered by health, unemployment, and workers' compensation insurance reflected the low level of social expenditures on social security system. Being one of the largest holders of foreign exchange reserves of the whole world, China has considerable potential to increase its social expenditures without raising taxes on households. As mentioned above, one of the major reasons for the rise in the savings rate was the reduction in the social welfare services provided by the government and state-owned enterprises. Increased government consumption expenditures in health, education, welfare and pensions would contribute indirectly to increasing household consumption as a share of GDP by reducing the household savings rate, which rose significantly in the past 20 years and accounted for about 25 percent of disposable income since 2000. If the government could provide more of these services, the families would gain confidence and thus reduce their own saving voluntarily and increase consumption as a share of their own disposable income (cf. Bergsten, et al., 2008, pp. 116-117). Taiwan might be a good model in this respect. The introduction of National Health Insurance in Taiwan raised the share of the insured population from 57 percent in 1994 to 97 percent in 1998. Since the uncertainty about future medical expenses has been reduced substantially, households began to save less and consume more. Hence the consumption demand has been stimulated. Saving felt by an average of 8.6 – 13.7 percent and private consumption increased by 2.6 percent in households where only one spouse worked and by 5.7 percent in households where both spouses worked (cf. Chou, Liu, Hammit, 2002, pp. 1887-1892).

In many economies, governments can increase personal consumption through fiscal stimulus by cutting personal taxes on household income, especially for the low income population. Thus their disposable income and personal consumption expenditure are raised. But we should note that the tax cutting as a fiscal stimulus may have almost no effect on consumption in China, where direct taxes on households are relatively too small to start with, thus the government has no enough scope to implement this policy (cf. Lardy, 2006, p. 6). A well functioning economic policy in many economies might be not suitable for an economy with unique features like China.

In China there are opportunities for efficiency gains and growth through greater internal integration, i.e. to develop the poor regions and increase income of the low income

population. It is comparable to the process that China has been benefiting greatly from its integration in the global economy since the reform. The government should improve the quality of the transportation and communication infrastructure in the poorer interior regions, as well as agricultural research and extension, rural infrastructure, and greater access to farm inputs and markets via transport and information. Investment in urban infrastructure such as transport, water and sanitation, should also be of high priority in a public expenditure program because China might be going through a rapid urbanization in the coming years (cf. Lim, Hausman, Spence, 2006, p. 4). However, the author is in the opinion that an effective solution for the development of the poor regions and thus increasing consumption of the rural population is not through urbanization but to create employment opportunities locally for the surplus labour force from rural areas. In the second half year of 2009, many export-oriented enterprises which employed great amount of migrant workers from poor rural regions were astonished at the shortfall of workforce, although they have raised the wages gradually. With the development progress of some rural areas, the level of wage income in hometown of those migrant workers increased. Plenty of migrant workers are now employed by the small enterprises in their villages which are founded and carried on by some formal migrant workers who successfully gained technique of production and even management experiences in big cities (cf. Shu, 2009). In addition, the governmental improvement policy for the purpose of developing small and medium-sized enterprises and encouraging individuals to establish small businesses, which was launched in recent years, contributes also effectively to the employment of the workers in rural regions locally.

Of vital importance, high inflation has to be avoided when the government uses fiscal policy to promote employment. “A stable value of money is essential to the proper functioning of a monetary production economy and hence of society as a whole. The reasons are economic and sociological: economically, money is a promise made by society to individuals, whose work is paid for in money, on the tacit understanding that – normal – money prices are given and, hence, that money may be exchanged against a definite quantity of goods. Inflation implies a break of this promise. Sociologically, the wealth of the middle classes mainly consists of money, deposits and bonds. These get devalued – in terms of some real numéraire, for example a bundle of necessary consumption goods – if there is inflation. Hence inflation worsens the socioeconomic position of the middle classes” (Bortis, 1997, pp. 347-348). When high inflation occurs, the middle classes with

falling real wage income and shrinking value of wealth have to reduce their real consumption.

Exchange rate policy should be an important element supporting China's transition from export-led growth to a consumption-driven growth path. Appreciation of the yuan will reduce the growth of exports and increase the growth of imports, reducing China's external imbalance. China's highly undervalued exchange rate constrains the independence of monetary policy. China's central bank has successfully sterilized large foreign capital inflows several times. For this purpose China was generally not willing to raise the interest rates, since that would reduce the carry costs[19] of foreigners moving money into China in anticipation of further RMB appreciation. Lower carry costs increase profits of the international speculators from any RMB appreciation, therefore the authorities fear that raising domestic interest rates could cause foreign capital inflows to become uncontrollable large. In the period of 2002-2004, the domestic price inflation was rising but the nominal domestic interest rates on loans were fixed, this made the real interest rate on loans fall by 13 percent points, from 9 to -4 percent. A more appreciated exchange rate would allow the central bank greater flexibility in setting domestic interest rates and thus increase the potential to avoid overheating investment booms by raising lending rates (cf. Bergsten, et al., 2008, pp. 119-120). If the imbalance of the foreign trade will be offset, the dependence of China's reserves on US dollar will be substantially reduced. Further, with appreciation of the undervalued yuan, the real income of Chinese workers will increase, consequently their consumption demand rises.

6.6 Investment as Derived Demand in the Long Run

Keynes suggests a long-period theory of employment: on the one hand, a high level of the own-rate of interest[20] of money, that is, the liquidity premium, may prevent the additional production of reproducible goods before full employment is reached (cf. Bortis, 1997, p. 133). On the other hand, the characteristics of money which satisfy liquidity-preference will in most cases "cause the rate of interest to be insensitive, particularly below a certain figure, even to a substantial increase in the quantity of money in proportion to

[19] For most investments, the carry cost generally refers to the risk-free interest rate that could be earned by investing currency in a theoretically safe investment vehicle such as a money market account minus any future cash-flows that are expected from holding an equivalent instrument with the same risk (cf. Inc Icon Group International, 2008, p. 335).

[20] Own rate of interest is the percentage change in a current commodity price compared with its known future price in the market. Every commodity has its own rate of interest, which can be affected by other commodity interest rates (cf. Sraffa, 1932, 205-208).

other forms of wealth. In other words, beyond a certain point money's yield from liquidity does not fall in response to an increase in its quantity to anything approaching the extent to which the yield from other types of assets falls when their quantity is comparably increased" (Keynes, 2007, p. 233). Once the own-rates of reproducible goods, valued in terms of money, equal this (minimum) own-rate of money, no more products will be produced (cf. Bortis, 1997, 133); specifically, "no further increase in the rate of investment is possible" (Keynes, 2007, p. 236). "Unemployment develops, that is to say, because people want the moon; men cannot be employed when the object of desire (i.e. money) is something which cannot be produced and the demand for which cannot be readily choked off. There is no remedy but to persuade the public that green cheese is practically the same thing and to have a green cheese factory (i.e. a central bank) under public control" (Keynes, 2007, p. 235).

Income distribution might play an important role to determine the own-rates of interest of capital goods and to determine the unemployment equilibrium. "A more equal distribution might be linked up with a higher volume of purchasing power and increased demand for consumption goods, which, in turn, may raise the own-rates of interest of the capital goods employed in the consumption goods sector" (Bortis, 1997, p. 134).

According to Robinson and Kalecki, the only way to extend Keynes theory to the long run is provided by a trade cycle-cum-growth theory based upon a classical-Marxian two-sector model (cf. Bortis, 1997, p. 135). Kalecki summarised: "The contemporary theory of growth of capitalist economies tends to consider this problem in terms of a moving equilibrium rather than adopting an approach similar to that applied in the theory of business cycles. The latter consists of establishing two relations: one based on the impact of the effective demand generated by investment upon profits and the national income; and the other showing the determination of investment decisions by, broadly speaking, the level and the rate of change of economic activity… I do not see why this approach should be abolished in the face of problem of long-run growth. In fact the long-run trend is but a slowly changing component of a chain of short-period situations; it has no independent entity, and the two basic relations mentioned above should be formulated in such a way as to yield the trend cum business-cycle phenomenon" (Kalecki, 1971, p. 165). Hence the growth trend is just calculated ex post on the basis of the movement of the business cycle (cf. Bortis, 1997, p. 135).

Keynes saw three possible ways to define the long-period equilibrium: "The first suggestion conveyed by the term 'long-period' is that it relates to a position towards which

forces spring up to influence the short-period position whenever the latter was diverged from it. The second suggestion conveyed is that the long-period position differs from short-period positions in being a stable position capable cet. par. unstable and cannot be sustained. The third suggestion is that the long-period position is, in some sense, an optimum of ideal position from the point of view of production, i.e. a position in which the forces of production are disposed and utilized to their best possible advantage" (Keynes, 1983, p. 54). According to Keynes, the equilibrium in the long run is not unique: "For the root of the objection which I find to the theory under discussion, if it is propounded as a long-period theory, lies in the fact that, on the one hand, it cannot be held that the position towards which the economic system is tending or the position at which it would be at rest or the optimum position ... whichever of these tendencies we have in view, is entirely independent of the policy of the monetary authority; whilst, on the other hand, it cannot be maintained that there is a unique policy which, in the long run, the monetary authority is bond to pursue" (Keynes, 1983, pp. 54-55).

The old fashioned view that saving always involves investment is incomplete and misleading. "The error lies in proceeding to the plausible inference that, when an individual saves, he will increase aggregate investment by an equal amount. It is true, that, when an individual saves he increases his own wealth. But the conclusion that he also increases aggregate wealth fails to allow for the possibility that an act of individual saving may react on someone else's savings and hence on someone else's wealth … attempt to save more by reducing consumption will so affect incomes that the attempt necessarily defeats itself … there cannot be a buyer without a seller or a seller without a buyer. Though an individual whose transactions are small in relation to the market can safely neglect the fact that demand is not a one-sided transaction, it makes nonsense to neglect it when we come to aggregate demand. This is the vital difference between the theory of the economic behaviour of the aggregate and the theory of the behaviour of the individual unit, in which we assume that changes in the individual's own demand do not affect his income" (Keynes, 2007, pp. 83-85).

Uncertainty is particularly strong in relation to long-term investment in capital assets, because circumstances are dynamic, the decision-maker can not obtain sufficient relevant information from the current conditions to guide his acts. As a matter of fact, no mechanism can coordinate their perceptions and decisions towards a consistent, stable long-run equilibrium position. Both Keynes and Marshall approached the long period to sustain the notion of 'normality'. Normality is a behavioural concept which refers to the

reactions that consistently accompany a given stimulus. Investment of capital fails on this criterion (cf. De Carvalho, 1994, p. 208). "The outstanding fact is the extreme precariousness of the basis of knowledge on which our estimates of the prospective yield have to be made. Our knowledge of the factors which will govern the yield of an investment some years hence is usually very slight and often negligible" (Keynes, 2007, p. 149). Keynes pointed out that the expectations of prospective profits are based partly on existing facts which we know and partly on future events which can only be forecasted with more or less confidence. However, the current conditions and confidence are not sufficient to make rational investment decisions. Usually, investors regard the marginal efficiency of capital primarily in terms of the current yield of capital equipment. But this supposition would be correct only in a static state where there is no change in the future. In fact, there are always changes not only in type and quantity of the stock of capital-assets, but also in the tastes of the consumer. Also the effective demand is changing from time to time (cf. Keynes, 2007, pp. 145-147).

If short-period and long-period values diverge, the economy will move toward another short-period position and will keep moving as long as the divergence remains. Not being in a state of full equilibrium, agents would continue trying to change their own position. This is the main role assigned to the notion of long-period equilibrium by Keynes. Even if long-period values can be calculated, nothing can guarantee that these values will ever become 'normal' in the long run (cf. De Carvalho, 1994, p. 209). Keynes stated: "I should, I think, be prepared to argue that, in a world ruled by uncertainty with an uncertain future linked to an actual present, a final position of equilibrium, such as one deals with in static economics, does not properly exist" (Keynes, 1983, p. 221). Therefore, the short-period employment must be solved coincide with the actual conditions under which short-run decisions are made. At any given time, it might be decided in relation to the existing capital equipment, whether the productive processes would be set on foot to produce consumption goods or investment goods. But the capital equipment does not remain in any sense constant from one accounting period to another (cf. Keynes, 1983, pp. 64-65). "The short period is here and now, with concrete stocks of the means of production in existence. Incompatibilities in the situation … will determine what happens next. Long-period equilibrium is not at some date in the future; it is an imaginary state of affairs in which there are no incompatibilities in the existing situation, here and now" (Robinson, 1965, p. 101). The existing situation is characterized by the institutions. Therefore, the activity of

the government, e.g. government spending, plays a major role in the economic development.

Let's recall the internal employment mechanism (cf. Bortis, 1997, p. 190):

$$Q_i^* = \frac{G}{z_s\left[1-(1/k)\right]-(g+d)v}. \qquad (2\text{-}42)$$

As interpreted in Chapter 2, in the long run, output and employment depend upon the relation between government expenditures (G) and leakage (z_s). z_s is the leakage out of property income and $z_s\left[1-(1/k)\right]$ is the leakage out of domestic income which is negatively associated with output and employment. The leakage out of income increases when income distribution becomes more unequal. The leakage out of property income ($z_s = 1 - c_s = s_s + t_s$) is large because more is saved if property income is unequally distributed (cf. Bortis, 2008, p. 74). Hence, investment being derived demand in the long run, output and employment depend upon the relation between government expenditures G and leakage z. The leakage z is dependent on the income distribution. Therefore, long-period employment policy should be primarily distribution or incomes policy, that is to say, a more equal distribution is, in principle, associated with higher output and employment levels (cf. Bortis, 2008, p. 79).

The long period equilibrium is a fully adjusted situation which consists of the normal prices p^* (governed by the conditions of production and by the institutions regulating distribution, specifically target profit rates) and of the normal quantities (the normal output Q^* and employment N^*) and the technically associated normal capital stock K^*. Normal prices and quantities determine normal sector sizes. Hence long period equilibrium is also a stock equilibrium (cf. Bortis, 1997, p. 87).

Because of the capacity effect of investment, trend gross investment must in the long run be proportional to output and employment and to the trend capital stock K^* since the long period equilibrium represents a stock equilibrium:

$$I^* = (g+d)vQ \qquad (6\text{-}2)$$

where $v=K/Q$ is the capital output ratio at standard capacity utilization, Q is output and d is depreciation ratio of fixed capital. Hence, in the long run, investment represents derived demand because of the capacity effect (cf. Bortis, 1997, p. 144). It is worth noting that

since the effective demand determines the volume of the whole investment in the long run, there is no uncertainty of long-period investment volume; however, uncertainty still remains in each single investment.

6.7 Induced Investment in the Medium Term: Interaction between Profits and Investment

The relationship between investment and profits constitutes the heart of classical-Keynesian trade cycle theory. The investment-profit relationship can be formulated as follows:

$$I_t = [(g^* + d^*) + q(k_e - k^*)]K_t \qquad (6\text{-}3)$$

where I_t is the gross investment undertaken in period t; g^* and d^* are the trend growth rate (effective demand) and replacement rate; the experience period e reflects investment behaviour: a small e means that entrepreneurs are impatient and shortsighted, and vice versa; k_e is the average realized gross profit (mark-up) over e time periods, starting from t - e, and k^* is the target trend mark-up (or distribution); parameter q is governed by the estimated profitability of capital and by the rate of interest, it describes the reaction of the actually undertaken gross investment to the differences between realized and target profits; K_t is the capital stock in time-period t. This equation pictures the interaction between medium-term aggregate behavioural outcomes and the functioning of the system which in the long run, determines entrepreneurial actions (cf. Bortis, 1997, p. 168, pp. 207-208, pp. 210-211). If entrepreneurs are shortsighted, the income effect of investment dominates which implies that the entrepreneurs know from past experience, summarised by k_e (realized profits), that higher levels of investment raise profits in the short and medium terms. If the entrepreneurs are cautious and take account of the capacity effect of investment to form expectations about the future, then parameter q will be relatively small and experience period e large. In this case they know that the larger volumes of investment are negatively linked with profits k_e in the long run (cf. Bortis, 1997, pp. 210-211).

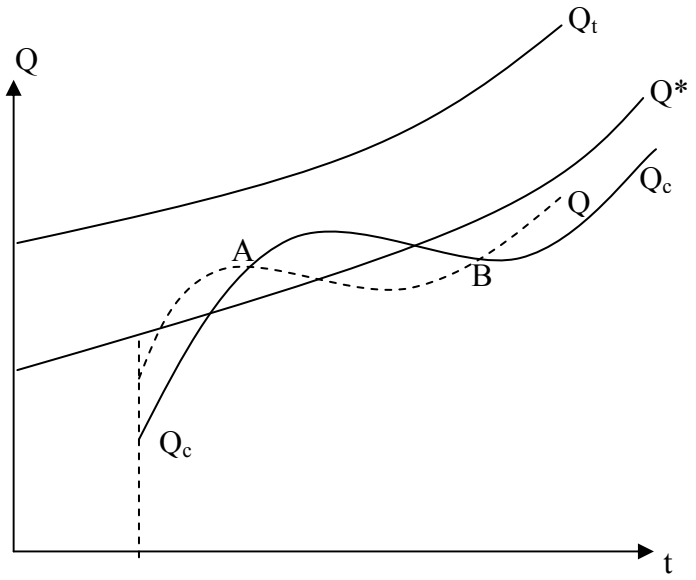
In an ideal state i.e. equilibrium, the actual investment I_t is equal to (desired) normal investment I^*, if the average realized mark-up k_e is equal to the actually desired mark-up k^* at normal capacity utilization k^* during the period t-e; this would imply that the actual capital stock K_t and the trend capital stock K^* are identical. This is impossible since

individual entrepreneurs do not know the equilibrium outcomes produced by the system and consequently economies can never be in equilibrium (cf. Bortis, 1997, p. 168, p. 208). In Figure 6.13, Q_t is the full employment output, Q^* is the trend or normal output, Q_c is the capacity output which would obtain if the presently existing capital stock K were normally utilized. Normal output Q^* represents the equilibrium. The real capital stock K_t and the real capacity output Q_c are always diverge from normal or equilibrium capital stock K^* and equilibrium output Q^*, because the system equilibrium is largely unknown to individual entrepreneurs who take investment decisions independently of each other. This means, again, an economy can never be in equilibrium, i.e. in the institutionally governed normal situation (cf. Bortis, 1997, pp. 205-206).

Bortis (1997) interpreted the medium-term theory in his book *Institutions, Behaviour, and Economic Theory*, if Q_c is below Q^*, not enough capital has been accumulated in the past (and vice versa), thus the output is not enough to cover the demand. Consequently the realized profits will exceed desired target profits. Because of the income effect of investment, this situation leads to investment increase. This results in "a cyclical upswing during which actual output Q tends to exceed capacity output Q^* which, in turn, implies that profits and/or prices or degrees of capacity utilization get above their normal levels. If investment goes on rising, the actual rate of growth (g) gradually rises above the trend growth rate (g^*) which implies that actual output will tend to exceed trend output. (All the movements are reversed if Q_c is above Q^* with investment and profits diminishing.) The meaning of the endogenous mechanism of cyclical movements now begins to emerge: cycles occur because economies are never in a long-period equilibrium, that is to say capacity output Q_c never equals trend output Q^*, simply because entrepreneurs do not know what the fully adjusted situation is. Entrepreneurs take investment decisions on the basis of information which they consider to be important (past and present evolution of sales and profits) and expectations about the future. However, the fully adjusted situation is the outcome of the functioning of society (institutions) as a whole … with technological and institutional change occurring. Cyclical growing actual variables thus interact with the institutional trend" (Bortis, 1997, pp. 206-207).

Not only the above mentioned endogenous factors, but also exogenous factors can affect the cyclical growth. "…for example, a temporary increase of government expenditures raises effective demand … The temporary increase in G may also lead to an increase of market prices or to improved degrees of capacity utilization in some sectors of production.

Figure 6.13 The mechanism of the cycle



Source: Bortis, 1997, p. 209.

In each case, the realized mark-up *k* will rise in the industries in question. If this persists for some time, entrepreneurs might decide to invest more which implies an increase in the actual rate of growth (*g*). The latter will result in an additional rise of the realized mark-up *k*: prices of investment goods go up and/or capacity utilization in investment goods industries improves. An increasing rate of profit, implied by a rising *k*, may induce entrepreneurs to invest even more. This process of cumulative causation, based upon the investment-profits (or *g*-*r*) relationship, thus reinforces (or weakens) an already existing cyclical movement initiated by the endogenous mechanism" (Bortis, 1997, p. 207).

In the newly industrialized countries (NIEs) in East Asia, government polices have played a major role in the process of capital accumulation by pushing profits beyond those that could have been attained under free market conditions. Policies were designed and implemented to promote the investment-profits connection, which made a great incentive for investment. Higher investment, in turn, raised profits in the medium-term by enhancing rates of capital utilization and improving the productivity. Consequently, incentives to save and invest increased with the pace of technological progress and profits accumulation. Those governments have utilized wide policy instruments to create and sustain a strategic allocation of sectoral resources to made comparative advantages in the light of strategically targeted growth factors. In order to apply such policies, relative prices have been changed to create profitable investment opportunities. The government has linked the distribution of

scarce resources to an incentive system that is performance-related, with the performance of firms being measured by their contribution to the growth of exports (cf. United Nations Industrial Development Organization, 1998, pp. 104-105). Experience shows us how strong and dynamic the East Asia governments have intervened in their economic growth. For the purpose of further development, especially in the recession period since 2008 when growth through exports is increasingly difficult, these Asian governments have to change the export incentive system to domestic demand or domestic infrastructure incentive system.

6.8 Short Term: Autonomous Investment

Many social scientists before Keynes had a strong feeling that there might not be an automatic tendency towards full employment in a monetary economy, but they failed to convince the economists' profession. Keynes argued that there was a failure in the market mechanism. He concluded that the capital market did not function in the neoclassical way which means that saving leads to a reduction in the rate of interest and thus to a higher volume of investment. In the view of Keynes, increasing saving reduced the aggregate demand for consumption immediately. As the effective demand decreases, the investments decline, no matter how low the interest rate is. In other words, the volume of saving passively adjusts to investment through a change in the level of output. The money market links with uncertainty and expectations of consumption demand provide the solution of the new explanation for the interest rate. Hence, equilibria are established through quantity adjustments, not through price variations. We can rewrite this in the following multiplier relation

$$Q = (1/s)I \qquad (6\text{-}4)$$

which summarises Keynes's short-period theory of employment (cf. Bortis, 1997, p. 132). Q is the output, s is the saving rate, and I is investment.

In a simple Keynesian model of income determination, the equilibrium level of output is entirely demand-determined. The growth and employment are driven by demand. If the level of demand is too low to absorb all the output produced under conditions of full employment, producers will change their expectations and adjust output accordingly, thus the economy will come to a state characterized by unemployment and surplus capacity.

Investment is exogenous (i.e. determined outside the model) and it is assumed that there is no financial sector, thus consumption is dependent only on the income level:

$$C = a + cY \tag{6-5}$$

where Y is the income, a is the autonomous consumption spending, i.e. that spending which exists for the subsistence even when the real income is zero, c is the consumption rate, i.e. the marginal propensity to consume out of income. Any change in an exogenous variable is regarded as an autonomous change (cf. Nattrass, Wakeford, Muradzikwa, 2003, pp. 40-41).

In equilibrium, national income is equal to aggregate demand and is comprised of private consumption, government expenditure, and saving which will be invested later. Therefore:

$$Y = C + S + G = (a + cY) + I + G. \tag{6-6}$$

Then,

$$Y = \frac{1}{1 - c}(a + I + G). \tag{6-7}$$

$\frac{1}{1 - c}$ is known as the multiplier. Equation (6-7) shows that one unit change in the exogenous variables (a, I and G) will result in $\frac{1}{1 - c}$ units change in Y. The multiplier effect shows that firstly, an autonomous increase in demand will initially boots income by an equivalent amount; secondly, this increase gives rise to further rounds of demand stimulus and output growth (cf. Nattrass, Wakeford, Muradzikwa, 2003, p. 42).

Of vital importance, the government can influence the national income Y by adjusting its expenditure G. If G goes up by the amount ΔG, then Y will go up by the amount $\frac{1}{1 - c}\Delta G$. Note c is less than 1 and greater than 0 (since consumption amount is only a part of income and must always be positive), so that the multiplier $\frac{1}{1 - c}$ is always greater than 1. This means that the increase in Y will always be greater than ΔG. For example, assume that the consumption rate c is 0.8 (i.e. 80 percent of the income will be consumed). If G goes up

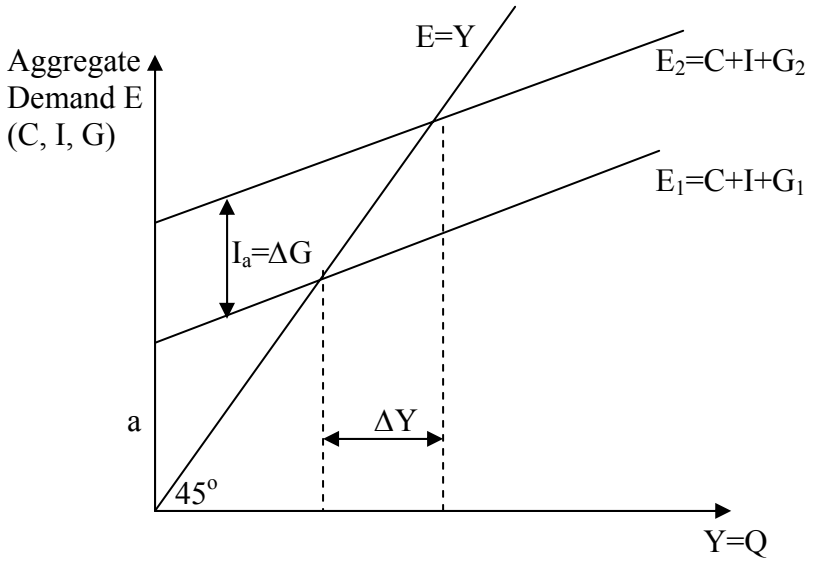
by 20 billion USD, the multiplier $\frac{1}{1-c}$ is equal to 5, so that income *Y* will go up by 20 billion USD multiplied by 5, i.e. by 100 billion USD (cf. Nattrass, Wakeford, Muradzikwa, 2003, p. 42). China reacted to the global financial crisis by investing 586 billion USD in infrastructure projects from 2008 to 2010 (see Chapter 9. Global Financial Crisis and China). Since any increase in government spending has a multiplied effect, i.e. much greater effect on income *Y* (in the example, the effect on *Y* was 5 times the original increase in *G*), it contributes to keeping the national income growth and creating employment opportunities.

Note that the multiplier is driven by the consumption rate, i.e. by the marginal propensity to consume. In the above example, the people spend 80 percent of their income to consume, then the increase in government expenditure results in 5 times greater increase in real income. For the poverty reduction project in China, if the government increased its spending by 20 billion USD in order to pay poor people to build and repair rural roads, the multiplier effect on total national income would work as follows: the workers will immediately spend 16 billion USD (80 percent of 20 billion USD) on commodities such as food and clothes. Consequently, the incomes of shopkeepers rise by 16 billion USD. They, in turn, spend 80 percent (i.e. 12.8 billion USD) on consumer goods. Then 80 percent of this income, which ends up in the hands of producers and other shopkeepers, is re-spent and the cycle goes on until no further income is generated. If we add up all the increases of income, we come up with the sum of 100 billion USD. Very important, the above mechanism only works if the national income was at least 100 billion USD below the level of full employment. Only in this case, an injection of 20 billion USD of government spending would bring the economy toward full employment (cf. Nattrass, Wakeford, Muradzikwa, 2003, p. 43).

This model can be presented in the famous Keynesian cross diagram (see Figure 6.14). The 45°-line represents the equilibrium condition $Y = E = C + I + G$ (equation 6-3), and at all points along the line, aggregate demand is equal to output, in other words, aggregate demand = demand expected by firms = output. Since *G* and *I* are exogenous, the slope of the $C + I + G$ line is *c,* i.e. given by the consumption function (cf. Nattrass, Wakeford, Muradzikwa, 2003, p. 44). Given that only the equality between actual and expected levels of expenditure brings an economy to equilibrium, Keynes argued that equilibrium positions could easily be positions of less than full employment. Government expenditure is a large component of aggregate demand and can be manipulated as a policy by the government, thus the state could help move the economy towards full employment

by increasing government spending (cf. Nattrass, Wakeford, Muradzikwa, 2003, pp. 45-46). As shown in Figure 6.14, if government increases its spending by ΔG, the national income will, through the effect of the multiplier, increase by ΔY, which will be substantially more than the increase in government spending. According to the assessment of the challenges China faces in Chapter 5, China's growth was strongly dependent on the export-led demand, income distribution was very unequal and the employment level was far below the full employment, so that additional government spending should work effectively in China, especially in the period of global recession.

Figure 6.14 The Keynesian cross and multiplier effect of increase in government spending



Source: cf. Nattrass, Wakeford, Muradzikwa, 2003, p. 45, Figure 4.2; p. 46, Figure 4.3.

It is clear that boosting demand could help bring the economy to a state of full employment equilibrium in times of recession. However, there are informational problems facing a government when it attempts to boost an economy to full employment with increasing government spending. Firstly, the government must have the ability to assess effectively what the full employment level of output actually is. Secondly, the government's economists must be in the position to estimate the value of the multiplier and the time it is likely to take entrepreneurs to revise their expectations sufficiently to create the additional desired output and consequently employment (cf. Nattrass, Wakeford, Muradzikwa, 2003, pp. 46-47). If the government doesn't have these abilities,

expansionary economic policies might cause long term problems, for instance excess capacity.

7. Social Security System, Consumption and Economic Development

Social security is a key foundation for building a harmonious society and sustaining economic development in China. In the history of the Chinese civilization, mutual assistance and helping the weak and poor have been a concept of a long and peaceful reign. About 2500 years ago, Confucius (551-479 B.C.), founder of Confucianism, made a classical description of the ideal world in his vision – a world of great harmony. He believed that a perfect society should be one in which everyone lives equally and shares all social benefits. In such a society, all the elderly enjoy a happy life in their remaining years, all grown-ups play an appropriate role and all children grown up healthily, all the disabled are well supported. The "society of great harmony" envisioned by Confucius has been regarded as the earliest description of social security in China. For centuries, the Chinese people have never given up the pursuit of their wonderful ideal (cf. Tian, 2006, p. 4).

The social security system can act as an instrument to affect behaviours of consumption and economic development. Despite the rapid economic development, China's consumption rate has been falling over the last three decades. Meanwhile, the saving rate in China has remained very high. The Chinese people are not necessarily economically super-prudent, but the insufficient socio-economic welfare system makes them feel insecure about healthcare, children's education, employment and retirements. Without an effective social security system, the increase in personal incomes would not automatically boost consumption (cf. Huang, 2009). This chapter discusses why the social security system is important for China and what kind of it China needs.

7.1 Overview of the Theories of Social Security

In a social insurance system, premiums are paid by workers to obtain coverage and benefits are intended to replace part of the earnings lost to the worker and the family when the worker retires, becomes disabled, or dies. Generally, there are two forms of social security system, namely Pay-as-you-go and Fully Funded.

7.1.1 PAYGO

The social insurance form PAYGO (pay-as-you-go) refers to an unfunded system in which today's workers pay for the benefits of today's retirees. The primary revenue source is a payroll tax which is paid by current workers and their employers. When revenues exceed outgo, the surpluses are invested in bonds and credited to the social security trust funds managed by the treasury department. For instance, the US Old-Age, Survivors, and Disability Insurance (OASDI) programs are primarily on a PAYGO basis (cf. Tamborini, 2008, p. 74).

The major challenge of the PAYGO system is a long-term financing problem. The primary reason is the program's PAYGO financing structure in combination with the demographics of an aging society. Demographics are important because PAYGO systems are sensitive to the ratio of workers to beneficiaries. Just like Europe, US and Japan, China faces also rising longevity and a low birth rate because of the medical improvement and the One-Child-Family-Policy since 1979. There are different views on the social security reform. One approach would maintain the PAYGO program structure and make relatively modest changes to restore the system's long-term solvency, such as increasing the retirement age, reducing the cost-of-living adjustments, or raising the amount of the payroll tax. A second approach would change the PAYGO program's structure and create a partially or fully funded system based on personal savings and investments in individual retirement accounts (cf. Tamborini, 2008, p. 75).

The critics said that in a pay-as-you-go system no funds are saved and invested, nothing is added to production. It is just a matter of redistribution and simply transferring funds from one generation to another (cf. Ferrara, Tanner, 1998, p. 60). But it is worth mentioning that on one side, since the economy can not regulate itself, all capital investments have macroeconomic risks, the return on investment is not secured, for instance, the American subprime mortgage crisis in 2007 resulted in a large financial loss of the Americans' net worth[21]; on the other side, the ultimate driving power of the production is not the capital investment, but the consumption, stating more precisely, the effective demand. In a pay-as-you-go system, the retirees will spend part of their pension for themselves, and the other part of it, as often the case in the Chinese culture, to support their children. For instance, today many retired parents in China contribute financially to purchase real estate for their adult children, and even pay the education fee of their

[21] Net worth is the total assets minus total outside liabilities of an individual or a company (cf. Covello, Hazelgren, 1995, p. 123)

grandchildren. Since the money will not be saved, effective demand is made, thus the production rises.

Let's recall the Keynesian theory, investment is autonomous,

$$\bar{I} = S = sY = sQ \qquad (7\text{-}1)$$

where the investment $\bar{I}$ is equal to savings S, both of them are dependent upon output Q respectively national income Y, and s is the saving rate. If the saving rate rises, the consumption falls. Current market performance builds the expectations of the investors for the future. Without enough aggregate demand today the investors will reduce investment for the production tomorrow, thus the output declines.

Keynesian economic theory, with its emphasis on maintaining the demand for goods and services in order to prevent the economy from spinning into a recession, provided much of the theoretical basis for the social security act. Aggregate demand and the maintaining consumer purchasing power during the depression could stimulate the economy and create a demand for goods and services which, in turn, create jobs for workers to produce them, thereby an economic justification for social income support and transfer programs is provided. Public works programs, old age pensions and unemployment compensation were essential to lift the economy out of the depression and to provide a counterpoint to radical restructuring. The role of the state is to mediate the extremes of the business cycle and to offer some protection to its victims (cf. Peterson, Lewis, 1999, p. 468).

7.1.2 Fully funded

However, in a private, fully funded system, the money paid in is saved and invested in capital investments which, in turn, increase production. And the value of the new production is returned to investors in the form of a profit on their investment. Over a lifetime, such return would accumulate to quite large amounts and could be used to finance retirement benefits. Because of the increased production, retirement benefits would be far higher than the amounts the workers had paid into the system over the years (cf. Ferrara, Tanner, 1998, pp. 59 - 60). But, as mentioned above, a fully funded system is not secured in economic fluctuations.

In the neoclassic theory, saving is equal to investment, what is saved will be invested:

$$S(i) = I(r) \qquad (7\text{-}2)$$

where saving S is dependent upon interest rate i and investment I upon profit rate r, and profit rate is greater than or equal to interest rate. According to the neoclassic theory, the economy can regulate itself, in other words, the economic system is able to self-correct. The saved capital may finance the fund. As saving rises, the interest rate will decline, so that the profit rate will be higher than interest rate, the individuals as well as the state have incentive to invest because they can benefit more from investment, thus production increases. Hence, in the expectation of neoclassicists, a fully funded retirement system may have great capital return through saving and investment.

Further, neoclassical economists argue that PAYGO social insurance and public assistance distort incentives. As a result, they claim that these programs represent a drag on the economy, by expropriating tax money that would be better used for private investment and by undermining individual initiative to work and save. In the neoclassic opinion, cutting public assistance and replacing social insurance with incentives for private insurance is good public policy because it restores the economic incentive to work. The taxes necessary to fund welfare programs reduce disposable income of the individuals and thus their purchasing power (cf. Peterson, Lewis, 1999, p. 468).

As a matter of fact, a fully funded retirement income system may increase a country's savings rate, whereas a PAYGO system may reduce the individuals' savings for retirement. In other words, in PAYGO system savings that were once intended to fund an individual's retirement can be used for present consumption. However, a fully funded system replaces individual savings with group saving. A nation's savings rate remains unchanged when individual savings are entirely replaced by social savings. Hence a fully funded system should induce a higher savings rate than the rate under a PAYGO system (cf. Skipper, Kwon, 2007, p. 230). A large national saving means that the money, which can be used in production sector, is now put into the financial sector. Skidelsky summarised the substance of Keynes book *Treatise on Money* and made the statement: "Depressions arise ... when money is shifted from the 'industrial circulation' to the 'financial circulation'" (Skidelsky, 1992, p. xxiv). In case of a high saving rate, consumption declines, consequently production and the economic development will be impeded.

U.S. Social Security is not a pure PAYGO system, but also includes Trust Funds, officially known as the Old-Age, Survivors, and Disability Insurance Trust Funds which is

managed by the U.S. Treasury Department (cf. Modigliani, Muralidhar, 2004, p. 9). According to the Federal Reserve, in the period 2007 – 2008, about 60 percent of public pension funds are invested in stocks, 30 percent in domestic fixed-income securities, 5 percent in real estate, and the remaining 5 percent in other products. However, the Retirement Savings of the United States have been hit hard by the stock market's volatility and lost 2 Trillion USD within 15 months from 2007 to 2008, a blow that could force workers to stay on the job longer than planned. For many Americans, retirement savings are their only form of savings. "Americans' retirement security may be one of the greatest casualties of this financial crisis." said George Miller, chairman of the House Committee on Education and labour (cf. Trejos, 2008). The Center for Retirement Research at Boston College estimates that 43 percent of Americans are "at risk", meaning they will be probably unable to maintain their current standard of living in retirement (cf. Wyss, 2009). This empirical evidence shows us that a social security system financed by savings could create a great decline in private wealth in times of crisis.

7.2 Importance of a Sufficient Social Security System

The social security system is a necessary means of maintaining social stability and economic development, a device for redistribution and maintaining social equality of the economy and a policy instrument to improve consumption and employment. Of vital importance for China, where the people have strong propensity to save, a sufficient social security system may play an important role to boost the individuals' consumption spending, which will be the main engine of China's further development.

7.2.1 Maintaining Social Stability and Economic Development

It is well known, that the social insurance system is adopted to maintain social stability and ease labour tensions. Since the Social Security Act was drafted in the United States in 1935, social security is taken as a necessary means of maintaining social stability and economic development. The Social Security Act of the US was based on the theories of Keynes. Keynes argued in his book *The End of Laissez-faire* (1926), the government should actively intervene in economic development in order to get rid of unemployment and depression. In the view of Keynes, it was the shortage of effective demands (including investment and consumption demands) that led to the problem of production surplus and

unemployment in the economic crisis in 1930. Therefore, the government should make every effort to stimulate private investment and consumption. Social security is strongly related to economic development. Economic crisis can be suppressed if the government greatly raises social welfare and wage standards. Further, Keynes proposed the abolition of slums and the implementation of progressive taxation and bottom wage systems. Keynes argued that the government should take on such social responsibilities as old age relief and unemployment security, which the private sector and market were incapable of doing. This could overcome market failure and crisis and was one of the efficient "economic stabilizers" (cf. Keynes, 2004, pp. 10-12, pp. 52-53, p. 255; Cheng, 2001, p. 177).

7.2.2 Redistribution and Maintaining Social Equality of the Economy

With the increasing gap between the rich and the poor, China needs social security system as a basic device to fulfil its function of redistribution and maintaining social equality. Based on the marginal utility theory, the British economist A. C. Pigou argued that the greater the aggregate national income and the more balanced its distribution, the greater the social welfare. The social welfare for the average people brought by the increase of national income depends on the increase of social output, which requires the optimal allocation of resources of social production. In addition, the monetary marginal utility of the rich is smaller than that of the poor, so that one unit income increase of the low income earners could raise the entire utility of social welfare stronger than one unit income increase of the high income earners. Hence an increase of universal welfare could be achieved through the redistribution of national income. Concretely, overall social welfare could be increased by implementing progressive income tax and heritage tax on the rich and increasing unemployment subsidies for workers and social relief for the poor (cf. Cheng, 2001, p. 178).

A welfare state should be a state that is responsible for the welfare of all its nationals. Since the state has a greater role in ensuring social equality than market forces, the state-managed social security system can act as a means of social reallocation and should, to certain degree, reduce the gap between rich and poor, ease social tensions (cf. Cheng, 2001, p. 178).

7.2.3 Improving Consumption and Employment

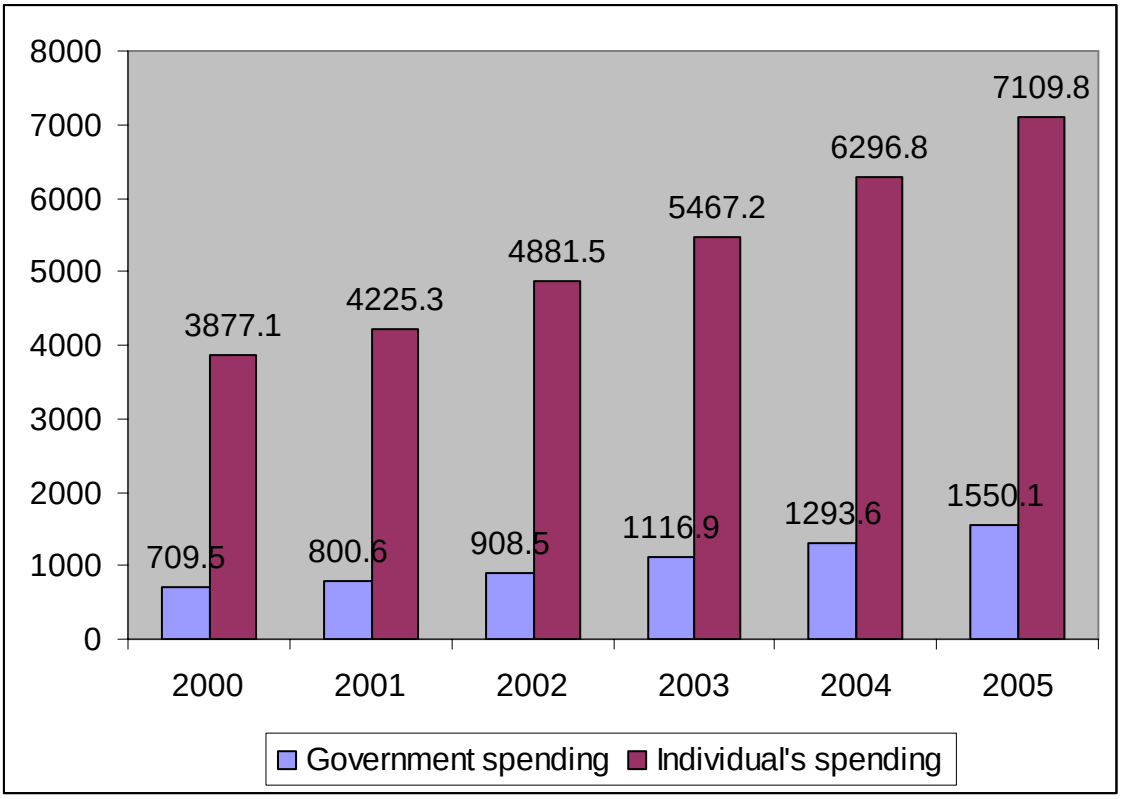
Today, China's effort to rescue economic downturn has exposed further problem: the structural imbalance of the Chinese economy, demonstrated by not only the heavy reliance on export-oriented manufacturing and processing industries, but also the excessive expansion of industrial capacity at the expense of consumption. The stimulus plan to invest over 586 billion USD in the next few years is decisive. But the massive stimulus plan is not just to keep the economy going during the global recession. The essential goals are to develop a strong and balanced internal market, i.e. domestic demand, more importantly, to maintain socio-political stability by creating jobs for millions of workers. The remedies for China's economic problems in the long run are to increase the consumption level (effective demand) while developing a sufficient socio-economic welfare system. These two aspects are essentially interrelated (cf. Huang, 2009).

Despite a steady increase in investment, China's consumption rate has kept falling in the last three decades, from around 55 percent of the GDP in the 1980s to 35 percent in the year of 2008. This is certainly an unmistakable indication of an underdeveloped internal market. The reason is the slow increase in personal incomes despite the fast economic growth (cf. Huang, 2009). Compared with the extra-low consumption rate, the saving rate in China has remained very high. China's gross saving rate (the percentage of GDP that is not consumed immediately) including both public and private saving is around 50 percent. By contrast, the saving rate in the US is roughly 10 percent of GDP. Almost all other countries are between these two extremes (cf. Shiller, 2006).

Because of the insufficient socio-economic welfare system in China, the people feel insecure about healthcare, children's education, employment and retirements, and would rather save than spend. We can better understand this problem by looking at the government spending on public goods. To this date, China is to develop national programs on healthcare, housing schemes, retirement, and social welfare. Amidst rapid expansion of the market economy, people's expenditure on healthcare, education and housing, has increased dramatically. As shown in Figure 7.1, the individuals' expenditures in health care have been much higher than the government expenditure, and accounted for about 4.6 times government health expenditures in 2005. In other words, for the total health expenditures in China, the individuals had to pay 82 percent by themselves, and the government only 18 percent. Without a complete government-sponsored social security net, an increase in personal incomes – if the stimulus plan achieves its desired goals -

would not devote to boost consumption in China. Indeed, when people have to employ their own savings to serve as their safety net, consumption is more a luxury than a necessity (cf. Huang, 2009).

Figure 7.1 Government and individual health expenditures (million yuan)



Source: United Nations Development Programme, 2008, p. 106, Figure 3.35.

7.3 The Current Social Security System of China

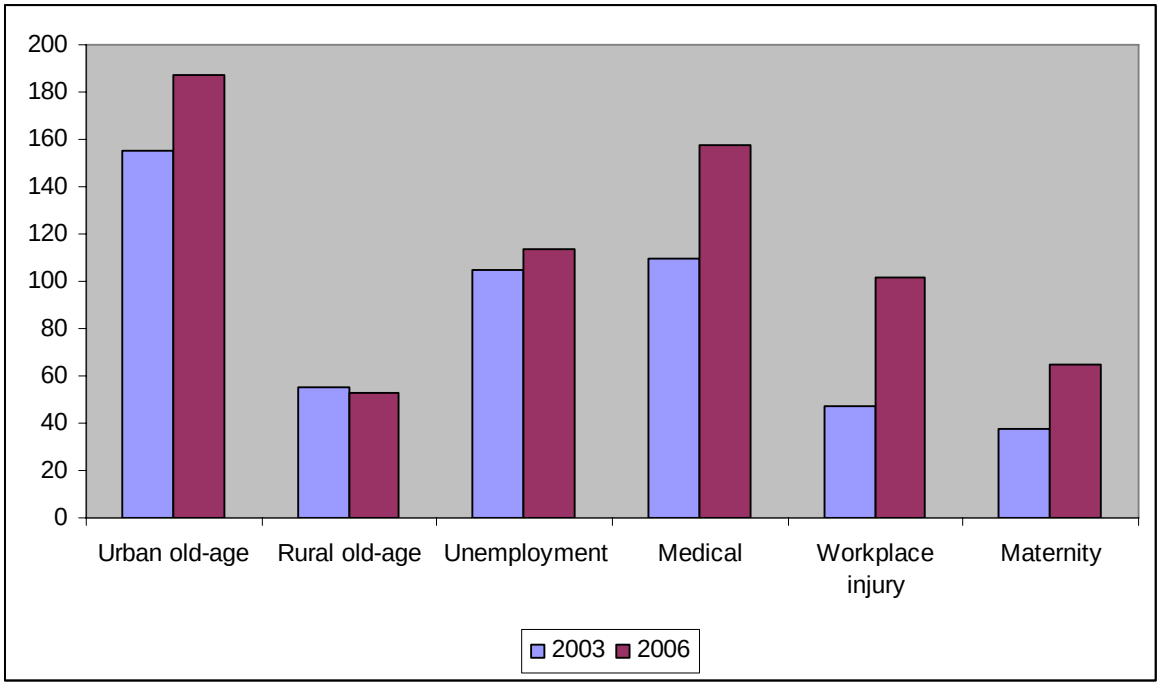
Review of Social Security Development in China (Mainly in Urban Areas)

From 2001 to 2006, government spending on social security across the country increased from nearly 200 billion yuan to around 436.18 billion yuan, while the share of social security in total government spending was 11 percent. The government spending on social relief and its share in total government spending both increased. The scale of national social security funding has been expanding. By the end of 2006, the enterprise annuity reached 91 billion yuan; in the first half of 2007, the total income of the social

security fund had increased by nearly 30 percent. The number taking part in work-related injury insurance and maternity insurance grew the fastest, up 133 percent and 85 percent respectively. However, the number taking part in urban old-age insurance and unemployment insurance grew the slowest (cf. United Nations Development Programme, 2008, pp. 54-56). As shown in Figure 7.2, in the period 2003-2006 the number of people covered by all schemes except the rural pension program steadily increased.

However, China faces very strong challenge in this regard, since many low income people are still not covered by the current social security system and distribution of the social security is very uneven, that is, the high income population enjoys more social security than the low income population.

Figure 7.2 Insurance holders under various schemes (millions)



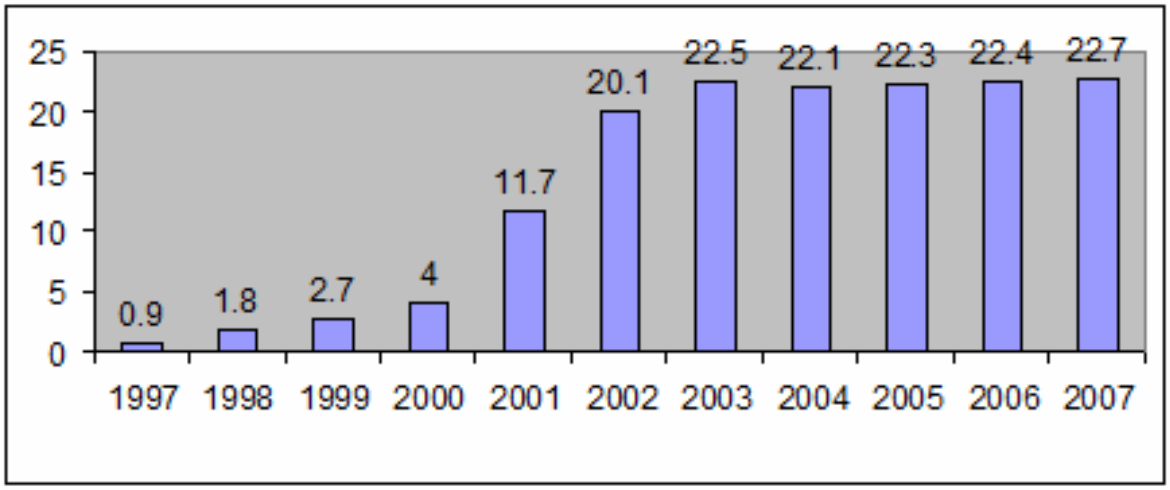
Source: United Nations Development Programme, 2008, p. 55, figure 2.6.

The government has implemented since 1999 a policy of providing basic living allowances in urban areas to subsidize the living costs of people who are below the locally defined poverty line. Surveys in 2008 in 14 cities show that only 37.1 percent of eligible households received the basic living allowances. However, the state must do more to improve the system of ensuring the minimum living standard in rural areas, where the

people are generally poorer than those living in the urban areas (cf. Lu, Feng, 2008, pp. 61-62).

As shown in Figure 7.3, the number of urban people benefiting from the minimum living allowance system has increased in an exponential manner, from 4 million people in 2000 to 22.7 million people in 2007.

Figure 7.3 The growth in coverage of urban minimum living standard allowance (number of people in million)



Source: United Nations Development Programme, 2008, p. 57, figure 2.7.

Progress has been made in the 9-year compulsory education as well as in higher and secondary vocational education. In 2006, the gross enrolment ratio reached 59 percent for senior middle schools, and 22 percent for higher education. Although education expenditures accounted for 15 percent of the government's total expenditures and 2.9 percent of gross domestic product (GDP), it is still smaller than other countries with similar level of economic development such as India and Brasil. In addition, large gap of income distribution between rural-urban areas in the average educational resources per student still exists and is a matter of concern (cf. Lu, Feng, 2008, pp. 62-63).

For the employment, since radical reforms were introduced in 1998, state owned enterprises (SOEs) and collective enterprises were required to lay off redundant personnel within 3 years, meanwhile, these enterprises must guarantee basic subsistence allowances to laid-off workers for 3 years. To help laid-off workers, the government set up reemployment service centres and provided subsistence support for laid-off workers. The

proportion of institutions paying for unemployment insurance has increased, at the same time, workers have also started to pay a premium equivalent to 1 percent of their wages for the unemployment insurance. By the end of 2006, 111.9 million people were covered by unemployment insurance, and 3.3 million people benefited from unemployment subsidies. But compared to the whole labour force in China, this was only a relative small proportion. Although the government has been implementing proactive employment policies, unemployment of young people has become an increasingly critical issue. A survey made by the Ministry of labour and Social Security indicated that every year about 10 million people wish to enter the labour force in China, but only 40–50 percent can find jobs. The unemployment rate for young people aged 15–29 years is 9 percent, which is higher than the 6.1 percent average in 2006 (cf. Lu, Feng, 2008, pp. 63-64). Unemployment insurance for urban workers covered 116.5 million people in 2007, an increase of 4.6 million people over 2002. The number of people covered by work-related injury insurance reached 121.7 million in 2007, an increase of 19.1 million people over 2002 (cf. United Nations Development Programme, 2008, p. 56). Note the official unemployment rate in China has been calculated without consideration of the migrant workers from rural to urban areas. In the first quarter of 2009, China's government estimated about 20 million rural migrants, or 15.3 percent of all rural workers employed outside their hometowns, have returned home without jobs. Meanwhile, urban unemployment rate, which excludes migrant workers, was estimated to hit 4.6 percent in 2009, higher than 4.2 percent in the fourth quarter of 2008. This number shows us that the global financial crisis blew China's labour market harder than expected (cf. Xinhua News Agency, 2009).

Among all social insurance programs, pensions are by far the most important with a share of around 80 percent in revenues and expenditures (cf. OECD, 2005, p. 187). China's government adopted the pay-as-you-go model of providing old age pensions in 1997. It was based on the Three-Pillar Model proposed by the World Bank (1994). The first pillar is funded by the employer on a pay-as-you-go basis, and amounts to 20 percent of each employee's annual income, considered as the minimum subsistence level. The second pillar is a cumulative account jointly funded by the employer and the employee and is equivalent to 40 percent of the latter's annual income. The third consists of enterprise annuity and is at present only practiced in profitable enterprises. The number of people covered by old age insurance grew from 86.7 million in 1997 to 186 million in 2006. Currently, old age insurance covers 48 percent of urban employees (cf. Lu, Feng, 2008, p. 65). In 2007, the number of employed urban residents with old-age insurance exceeded

201 million, an increase of nearly 14 million people compared with 2002. The average participation rate among employees was around 74 percent (cf. United Nations Development Programme, 2008, p. 56).

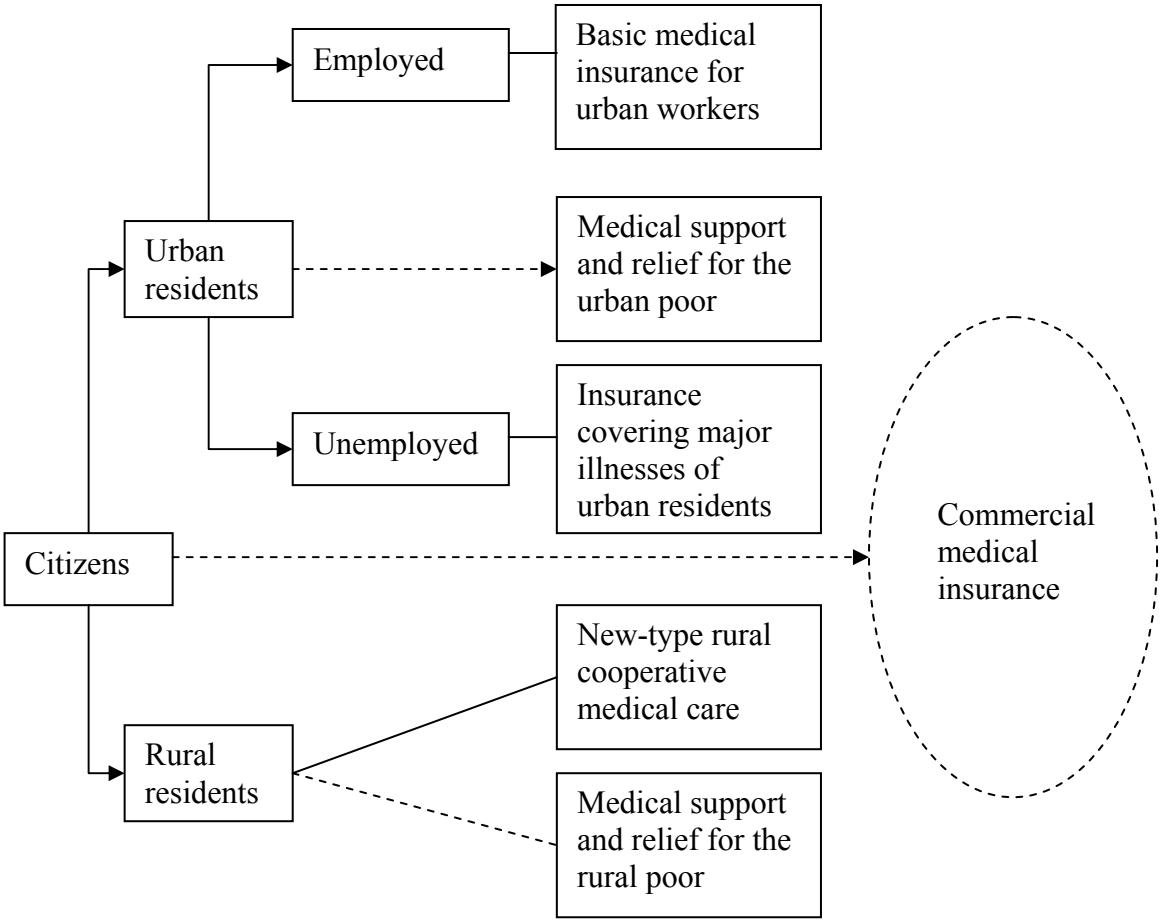
Of the 1.3 billion Chinese people, about 400 million are living in urban areas, the other 900 million in rural areas. The majority of rural population in China doesn't have such old age insurance. In the countryside, old-age security has traditionally been provided by cultivated land and extended family. Today, as family size shrinks and more and more people move to cities to work, the old age security has become a challenging issue. China has already adopted the urban model in some rural areas on a trial basis. By the end of 2005, it had been expanded to cover more than 54 million people in rural areas, which accounted for about 6 percent of the entire rural population. Today, the childless elderly people in rural areas receive subsidies each month from the state and the rural people over 60 years old who only have one child (son or daughter) or two daughters, receive at least RMB 600 per year from the state as a reward for not having more children. Despite all the progress, the coverage is still low and labour mobility is constrained by the poor transfer ability of the current pension system, and the differences between rural-urban pension systems are still very large (cf. Lu, Feng, 2008, pp. 65-66).

Before the opening, China's health care system contained "barefoot doctors" in rural areas and free medical care for the employees in cities. Since market-oriented reforms were adopted, great expansion and improvement have been made in medical resources and facilities. Nationwide expenditures on health reached RMB 759 billion (about 95 billion USD) in 2004. However, the medical expenses grew faster than personal incomes, nearly one fifth of patients of China in 2003 could not afford to visit a doctor. A survey from the Ministry of Health of China in 2003 showed that 65 percent of the population did not have medical coverage, among them 45 percent in cities and 70 percent in rural areas. Three fourths of the population ranked expensive medical bills as the top social issue in China, according to another large-scale survey. Public health expenditure accounted for only 36.3 percent of all health expenditures in 2003 (cf. Lu, Feng, 2008, p. 66). This means, the large proportion of healthcare expenditures was borne by individuals themselves.

Since 2004, the government has begun to reform the urban and rural medical care system (see Figure 7.4). In cities, the system relies mainly on the employee medical insurance scheme, which currently covers 130 million workers. For the rural population, the government launched the cooperative medical care in the countryside in 2003. Large medical expenses are covered by a fund to which individual farmers contribute RMB 10

each year while central and local governments contribute RMB 40 each year per registered resident. At the end of 2006, this system covered 410 million farmers, or 45.8 percent of the rural population (cf. Lu, Feng, 2008, p. 67). In 2007, another 223.1 million people were using urban employees' medical insurance, an increase of 65.8 million people over 2002 (cf. United Nations Development Programme, 2008, p. 56).

Figure 7.4 Urban and rural medical care system



Source: Lu, Feng, 2008, p. 67, Figure 3.

China's current social security system has the following characteristics: (1) A dual economy with separate and unequal social security systems for urban and rural areas; (2) Low coverage and low levels of provision; (3) Rapidly increasing burden on the government. Nowadays, China set an ambitious goal to realize a universal social security with special focus on the low-income group and the government is emphasizing human development increasingly (cf. Lu, Feng, 2008, pp. 68-69).

Rural Social Security System in China

Social security is an important regulatory measure for the government in the transitional period of the economy. In the practice social security relies on the economic development to some extent, however, its main function is to ensure a balanced socioeconomic development. According to international practice, industrialized countries started to develop their social security systems widely not at the stage of economic prosperity, but in depression and social transition stages as a very significant social policy to meet the socioeconomic challenges or helping the country overcome the economic crisis. China's economy is now in a historic transitional stage with great challenge caused by the uneven growth between the rural and urban areas. The Chinese Government must use social security policy to reduce the income gap between the rural and urban workers and promote the development of rural areas. In order to reduce the income gap, it is not enough to regulate the income redistribution only by taxation. The use of an effective social security policy is necessary (cf. United Nations Development Programme, 2007, pp.57-58).

In most countries, especially the industrial countries, the farmers not only own some land, but also have large investments in livestock and machinery that can be liquidated if necessary. Therefore the farmers have substantially more assets than urban people in these countries. In addition, in high income countries, most rural people are included in social security systems (cf. Johnson, 2000, p. 229). In China it is not the case. As a result of the collectivization movement in the 1950s, rural Chinese do not have the ownership of land any more, so that they can not use such asset to secure their life when they lose work ability on old age. In the early 1980s, the agricultural reform returned the management of land to farm households while keeping the state ownership of land. However, without private ownership of land, the farmers have severely limited ability to accumulate asset. The elderly do not own the land, so that their children can not inherit the land as fortune. This means, unlike the traditional way of Chinese old age care which was mainly financed by the younger generation of the family, the elderly farmers in China today have no effective means to ensure that their children will finance their life on old age. In addition, the reduction of the number of children, the shrinkage of family size and the migration of the young out to cities also impact the life of the rural elderly (cf. Zhao, Wen, 2000, p. 280).

With the progress of urbanization in the past years, the urban labour force grew faster than the rural labour force. However, the majority of the entire Chinese labour force is still living in rural areas. The current rural labour force totalled 480.9 million at the end of 2006, 1.7 times the urban labour force (see Table 7.1). As mentioned above, most rural labour force is still not effectively protected by the social security. The contribution of the government on social security in the past was mainly concentrated in the urban areas. In other words, the majority of the Chinese labour force is not covered by the social security system. The key challenge of China's development is, almost in each aspect, the underdevelopment of the rural areas, including inequality of income distribution, low consumption rate, unemployment and also low coverage of social security.

Table 7.2 shows us the low coverage rates of the social security system for rural migrant workers in China, who left the villages and work in the cities. The coverage rates for pension, employment injury, and medical insurances for rural migrant workers were 11.31 percent, 5.28 percent, and 4.92 percent respectively. The participation rates of rural migrant workers in social insurance were very low compared with urban employees (see Table 7.2 and Table 7.3). However, the rural farmers who are living in the villages are still less covered by the social security system than the rural migrant workers.

Table 7.1 Number of employed persons at year-end in urban and rural areas (10,000 persons)

Year	Total	Urban Areas	Rural Areas
1980	42,361	10,525	31,836
1990	64,749	17,041	47,708
2000	72,085	23,151	48,934
2003	74,432	25,639	48,793
2006	76,400	28,310	48,090

Source: China Statistical Yearbook 2007 CD-ROM, 2007, Table 5-2.

The underlying reason for the extreme low participation rates of rural people in social security schemes is the institutional segregation rooted in the *hukou* system. The so called "internal passport" *hukou* is a man-made institutional arrangement designed to control the

population migration between rural and urban areas and across regions in the command economy. As a result of the *hukou* system, both employment and social security policies favour only local urban households and workers. Urban workers are often employed in the formal sectors[22] with better protection by social security while rural migrant workers are mainly employed in the informal sectors with less protection (cf. Wang, 2008, pp. 56-58). Data showed us that migrant workers were most often young males and concentrated in low skilled, dirty and dangerous temporary jobs of construction and manual production which were rejected by the local urban workers (cf. Roberts, 2001, pp. 18-25). China has undertaken a radical reform of its urban social security system in 1990s, including basic pension insurance system for enterprise workers, basic medical insurance system for urban workers and unemployment insurance for urban workers. But the reform policy design paid only much attention to local urban workers and did not take the welfare of the rural migrant workers into account. The country also introduced the work injury insurance for all enterprises in 2003. However, in practice no effective work injury protection was provided to rural migrant workers who do not have permanent jobs in the cities (cf. Wang, 2008, p. 58).

Table 7.2 Coverage of social security system for rural migrant workers (2006)

Items	Number of people covered (million)	% in total rural employees (480.90 million)
Medical insurance	23,67	4.92
Employment injury insurance	25,38	5.28
Rural old age social pension	54,42	11.31

Source: United Nations Development Programme, 2007, p.37, Table 3.

In most parts of China's countryside, the social old age caring system has not been in place and the new rural cooperative medical system is still in the phase of experiment. Meanwhile, as mentioned, a great number of young people leave their villages and go to work in the cities. Traditionally, the young people supported elderly people. But as the number of young people in villages drops, caring for rural aged people becomes more

[22] Employment in formal sectors are all those types of employment which offer regular wages and hours, which carry with them employment rights, and on which income tax is paid (cf. Barr, Diamond, 2008, p. 310).

difficult. China had 38,000 social welfare institutions for elderly and 1.205 million beds for elderly caring in 2006. On average, each 1,000 aged people may rely on 8.6 beds, this is significantly behind the corresponding figure of 50 to 70 in developed countries (cf. United Nations Development Programme, 2007, p. 65).

Table 7.3 Coverage of social security system for urban employees in 2006

Items	Number of people covered (million)	% in total rural employees
Basic old age pension insurance	140.28	49.55
Basic medical insurance	115.87	40.93
Employment injury insurance	102.35	36.15
Unemployment insurance	111.87	39.51
Maternity insurance	64.46	22.77

Source: United Nations Development Programme, 2007, p.37, Table 2.

Table 7.4 Income maintenance of the elderly people in rural China (Total sample: 636 old people)

Channels for old age income security	Number of old people	% in the total respondents
Personal savings	245	39
Supported by the family	311	49
The village	70	11
Rural social insurance	110	17
Private insurance	21	3
Other	33	5

Source: United Nations Development Programme, 2007, p.33, Table 1.

The United Nations Development Programme surveyed 636 aged respondents in rural areas in five provinces of China. This sample survey showed that 39 percent relied on personal savings for old age, 49 percent on support from the children. Only 17 percent relied on rural social insurance averagely (see Table 7.4).

In the past the government spent less on the social security schemes for rural inhabitants than on those for urban residents. The ratio of annual social security expenditures between the urban and the rural population was 89 to 11 percent in 2001. This was paradoxical, since around two-thirds of the Chinese population lives in the countryside. In July 2003 a new cooperative healthcare project was launched in rural areas. Under this pilot scheme, every villager contributes 10 yuan annually, and the central as well as the local governments each contribute 10 yuan per person toward building up a fund to finance the medical care for its members. As the government has proclaimed, this new scheme is to cover 80 percent of the rural population till the end of 2010. The participation rate in 2006 was about 23 percent. However, only the treatment of serious illness is reimbursed and membership is still on a voluntary basis (cf. Darimont, 2008, pp. 208-209). The government needs to do more in this aspect to reduce, and ultimately, eliminate the gap of government expenditure on the urban and rural social insurance system.

The rural pension insurance in China has mainly three ways of fund collection:

1. Regular contribution, which is the common way of fund collection for rural residents with stable incomes or those living in rich regions. The amount of contribution can be a certain proportion of the contributors' income or just a fixed amount.

2. Irregular contribution, which is adopted in most of the rural regions due to unstable incomes for the local residents. The farmers pay more in years of better harvest or better family incomes and less or even nothing in years of bad incomes.

3. Once-and-for-all contribution, which suits farmers of older age best. The farmers pay their contribution to the insurance fund once and for all according to their own expectations for their old age life. They start to draw pension from the fund since they are 60 years old (cf. Tian, 2006, p. 146).

This rural pension insurance scheme covered 54.28 million rural people by the end of 2005. But this was only 7.06 percent of the total rural labour force in China. The accumulative rural pension insurance fund reached 26 billion yuan and was paying pension to 1.98 million rural Chinese (cf. Tian, 2006, p. 146).

7.4 Principles and Policy Suggestions for Improvement

In China, it is now recognized that a basic social security system should provide a reliable means of support in old age and absorb any shocks effectively. Major social insurance schemes in China include both urban and rural old-age pension programs, unemployment and work-related injury insurance, basic medical care, maternity insurance and the minimum living standard allowance program. According to the Human Development Report China (2008), China's Government has set ambitious goals for improvements in social security system for its 1.3 billion population, given that an ageing population is exerting pressure on the payment of pension, medical and other social security benefits. By 2010, China intends to set up a sound old-age insurance system covering 223 million employed people with basic pensions, a basic medical care plan covering 300 million people, an unemployment insurance plan covering 120 million people, and a work-place injury plan covering140 million people, and maternity insurance for 80 million women. The Government also intends to progressively increase the coverage and levels of rural old-age insurance, a new rural cooperative medical system and the rural minimum living standard allowance, as well as the enterprise annuity (cf. United Nations Development Programme, 2008, p. 54).

In relation to the special conditions and characteristics of China's society, the following policy issues must be taken in careful consideration for the improvement of social security system in China:

1. The basic objective of social security is to guarantee the basic living standards for each social member.

2. Social security is obligatory and requires legislation to force all concerned parties (state, society, work units, individuals) to fulfil corresponding obligations.

3. Social security should be dominated by the government, which should put all social forces into operation to establish an efficient security system and provide necessary financial support.

4. Additionally, social security needs to be supported and complemented by the self-provided security of individuals. All people must be encouraged to strengthen self security through purchase of commercial insurance, family pension plans, etc (cf. Cheng, 2001, pp. 184-186).

Cheng Siwei, Vice-Chairman of the Standing Committee of China's national Congress, argued in his book *Economic Reforms and Development in China* (2001) that the

Chinese people should also be encouraged to support themselves through savings. But the author does not agree with this argument. On the one hand, the very high saving rate is already a problem for the consumption in China and slows down growth of domestic demand; on the other hand, because of the insufficiency of the social security system, the Chinese people are willing to save rather than consume. Therefore, saving might be a solution for other countries with very low saving rate, for instance the United States, but it is definitely not a suitable solution for China.

China's government should focus on the following points for the further reform and improvement of social security system:

Reducing the Dualistic Nature of the Social Security System

At present, parallel to the economic system, China's social insurance system is also segmented between rural and urban areas and even within urban areas, and there are large differences in coverage across regions and enterprise ownership types. This is the so-called dualistic economy. The segmentation of social security schemes impedes labour mobility and hence the creation of a national labour market (cf. OECD, 2005, p. 187). China's social security system should be redesigned to help reduce the income gap. Social policies and welfare provision in China are still divided, leaving most farmers and rural migrant workers without social support, while most residents in the cities benefit from the social security. In the 90th century the social welfare system enlarged the urban–rural residents' income gap by about 20 percent. The government is considering providing welfare benefits to migrant workers who have a stable job in a city and let them then pay taxes. This proposal will need budgetary allocations from both the central and local governments, because only one of them cannot carry the burden alone (cf. Lu, Feng, 2008, pp. 73-75).

Calling for a Better Management of Capital Spending on Social Security

Since the economic reform, government revenues are growing steadily. Along with the urbanization progress in recent years, many local governments have increased their revenues by using agricultural land for non-agricultural purposes. Presently, such revenue sources are not managed as part of the government's budgetary revenues and are mainly used for funding economic construction activities and government operations. If extra-budgetary and extra-system revenues are consolidated with budgetary revenues, the social

security system will be financed more effectively than today. The further public finance reform should make the government budget fairer, more efficient, more transparent, and better functioning. Firstly, the structure of public spending must be improved. The Government investment in economic construction activities still outweighs spending on social programs (culture, preservation of cultural relics, sports, publishing, education, public health, etc), although it has decreased from 64 percent of budgeted expenditures in 1978 to 27 percent in 2005. In the same period, administrative costs have ballooned, growing faster than social spending. All of these should be rationalized and strictly controlled. Secondly, extra-budgetary and extra-system revenues should be well managed and efficiently used. Thirdly, the transparency in public finance should be improved. Spending on social programs is closely linked with the needs of the people, it should be made more transparent and involve greater public participation (cf. Lu, Feng, 2008, pp. 75-77). The efficiency and effectiveness of public spending could be, principally, enhanced by exploiting the role of market mechanisms to integrate the capital and the current budget, improving the benchmarks for the evaluation of cost-efficiency of spending etc (cf. OECD, 2005, p. 201).

Ensuring the Solvency of the Social Security System

How can we ensure the solvency of the social security system? Different countries have different practices, but in general they combine taxation and forced savings. Taxation is on a cash basis and means that employers and employees pay a certain percentage of the total salary as a salary tax. Then the government manages the money and uses it for short-term redistribution. This fund-raising model is based on the principle of short-term horizontal balance of income and expense. It is a traditional method for raising funds for pensions, medical care, unemployment benefit and other types of social insurance. Its major strengths lie in its flexibility to adjust the percentage of taxation according to changing needs and minimum need for personal information and low management cost. However, this model will cause inter-generation redistribution and it is thus difficult to adapt to the fluctuations of economy and an aging population. Forced saving is a long-term accumulation method. The employers and employees pay a certain percentage of their total salary as insurance premium into employees' individual accounts, which can in the long term increase in value and works as long-term accumulation funds. This fund-raising method is based on the principle of balance of long-term income and expense. Its major

strengths are high motivation and transparency and stable withdrawal rate. Further, the collected funds can enter capital market without difficulty. But it has a very high management cost, as well as the very high demand for personal information and a complex information processing system. Since the interval between contribution and earnings is very long, the funds may lose their value when uncontrollable risks occur, such as financial crisis, inflation, natural disaster and war. Almost every country in the world is trying to seek an optimal combination of these two models to form a social security system, in order to ensure both the current needs and the future growing needs of expenses. Generally, the taxation is used to ensure the basic life needs of the nation and the forced saving is used to ensure the future needs of the individuals (cf. Cheng, 2001, pp. 188-189).

The US social security system has faced serious challenges owing to the aging population. The US has put forward a proposal to set up a two-tier social security system, which might be recommendable for China's further social insurance reform. The proposal suggests that "while maintaining the existing retirement plan supported by government taxation, measures should be taken to ensure its solvency, including slowing down the growth rate of earnings of high and middle-level income earners; gradually putting off the retirement age from the present 65 to 70; keeping 62 as the age of early retirement but increasing the discount of retirement benefits; and levying a federal tax on welfare benefits above the amount of contribution by the workers" (Cheng, 2001, p. 189). The above is the first tier. The second tier is the new defined contributions plan, which transfers to the individuals' retirement accounts through forced savings, whereas both employers and employees are required to contribute 1.5 percent of the employees' wages (cf. Cheng, 2001, pp. 189-190).

In certain circumstances, forced saving could be a solution for the solvency of social insurance in industrialized countries, where the people are protected effectively by sufficient social insurance and thus are willing to consume. However, as mentioned above, the saving rate of the individuals in China is already very high, thus it is questionable, whether forced saving, or to be more precisely, a further group saving really works in China. As Keynes pointed out, saving has an immediate effect of reducing consumption and hence employment (cf. Keynes, 2007, pp. 190-191). Lack of sufficient effective demand, investment will decrease since it depends on the expectation of future consumption which is built by the current market performance, thus the production declines. Therefore a further increasing savings rate in China will make the consumption-driven growth strategy impossible.

According to a report of the International Labour Organization (ILO), as future social security systems in industrialized countries as well as certain developing countries, including China, come under increasing strain from an ageing population, changing the mechanisms for financing retirement will be unable to solve the problem of rising pension costs. Among the solutions, the ILO says, employment policies should be changed in order to enable older workers to stay longer in employment and it should be made attractive for them to do so (cf. International Labour Organization, 2002). Currently, the employees' retirement age in China is 55 for women and 60 for men. Studies by the ILO show that pension costs can be reduced by about 50 percent by increasing the retirement age for 5 years (cf. International Labour Organization, 2002; Cheng, 2001, p. 192). But we should note that this policy runs counter to the present unemployment challenge in China, so that it turned into a question that the Chinese scholars often debate. In order to relieve the unemployment pressure, many state owned enterprises have even decreased the retirement age of their employees from 55/60 to 50/55 (women and men respectively). The policy of raising retirement age might be not practicable until a fundamental employment improvement is made in China.

The Interim Provisions for Social Insurance Collection of China, issued in January 1999, requires businesses to pay for their employees' basic pensions insurance, basic medical insurance, unemployment insurance, and work injury insurance. Employees must pay only 7 percent of their wages. Of the total contributions, which account for 36 percent of a worker's wages, 21.1 percent goes into the social financing fund and 14.8 percent goes into the employee's personal account. Thus, China's social security is established mainly through forced contributions from enterprises and personal savings. The government takes limited responsibility. For example, a basic living security fund of RMB 19.5 billion has been raised for the redundant workers in 1999, out of which 50.8 percent was contributed by the government, 20.5 by society, and 28.7 by enterprises (cf. Cheng, 2001, pp. 191-192).

The extension of social security coverage is a very important source of social security funds. Today, the social security coverage in China is far from extensive, insurance contributions have not been standardized in each region, and social security funds are still inadequate. The country needs to include all labours in the social security system as soon as possible. This action will not only increase sources of funding for social security but also promote social stability and economic development (cf. Cheng, 2001, p. 192). Another essential source of funding for social security is the increasing national expenditure to the

social insurance system, because, as mentioned in chapter 6, government expenditure could enhance the consumption and economic development which, in turn, ensure the solvency of the social security system.

8. Global Financial Crisis and China's Development

This chapter discusses at first the influence of the current global financial crisis on the world economy, especially on China, and then analyzes the impact of China's reaction produced by the crisis on its trade partners. For the discussion of the influence, empirical evidence is introduced and relevant theory is reviewed to explain the rising protectionism during recession. Finally, the Keynesian proposals on a single global currency are reviewed as solution suggestions for a new world economic and monetary order in order to ensure the stability of world market and prevent financial collapse and economic crisis.

8.1 Influence of the Current Global Financial Crisis on the World Economy

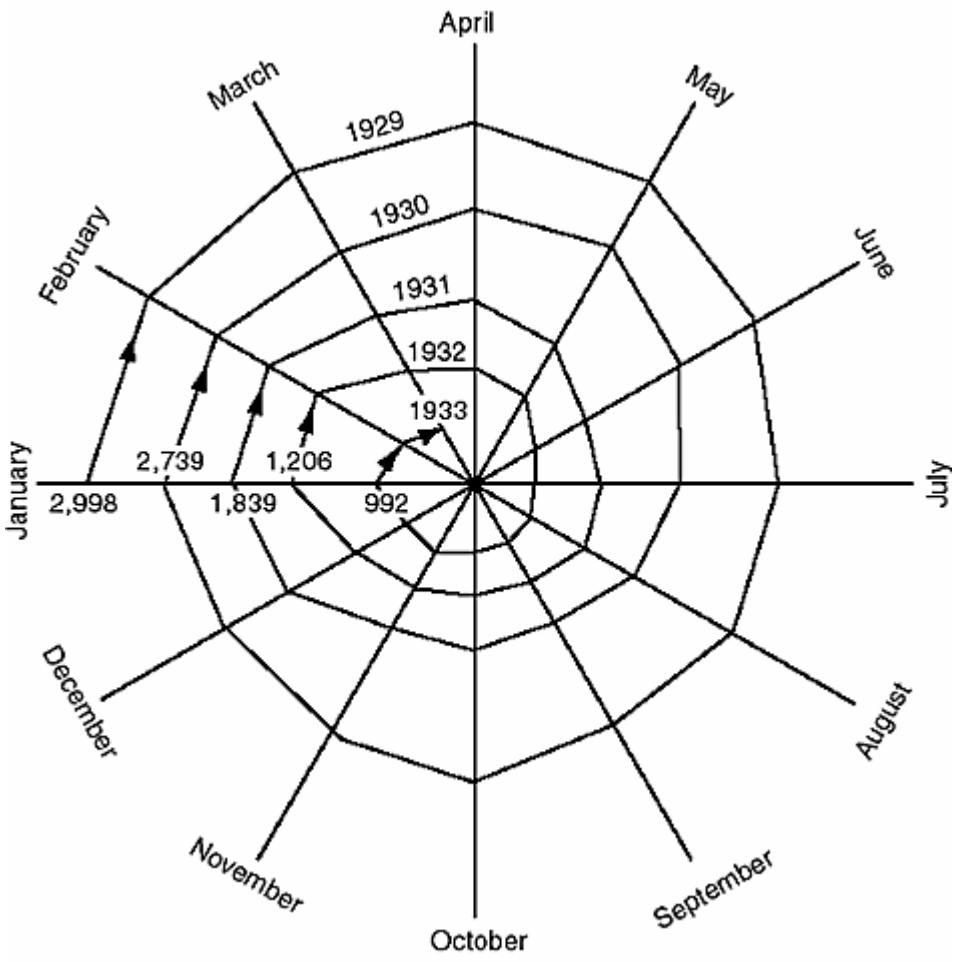
Empirically, Financial or Economic Crisis May Cause Large-scale Protectionism

In order to identify the empirical prediction of the impact of financial crisis, let's recall the Kindleberger spiral of the Great Depression. As shown in Figure 8.1, the volume of world trade fell from 3 trillion USD in January 1929 to 0.9 trillion USD in December 1939 – one-third of its original level.

Obviously, if the global trade volume continues shrinking under the impact of financial crisis, as it today really seems to be, the newly industrializing countries (NIC) like China can no longer rely on exports to keep the growth.

As a matter of fact, the financial crisis has already hit world trade hard. Exports from Japan were almost 50 percent less in February 2009 compared with the same month in 2008; China's Exports were down 26 percent in February 2009. WTO had predicted that global trade would shrink by 9 percent in 2009, the steepest annual decline since World War II. Battered by a collapse in the values of their assets, the households in the rich world start saving again. The Western consumers have less appetite for new cars and consumer electronics. In order to rebuild their shattered balance sheets, the banks reduce the capital supply that would once have been used to finance trade (cf. Elliott, 2009, p. 22). Weakening external demand hit the emerging economies hard in the fourth quarter of 2008, especially China and other Asian economies that strongly relied on export-led growth (cf. Shah, Swinney, 2009, p. 27).

Figure 8.1 The Kindleberger Spiral (in million USD)



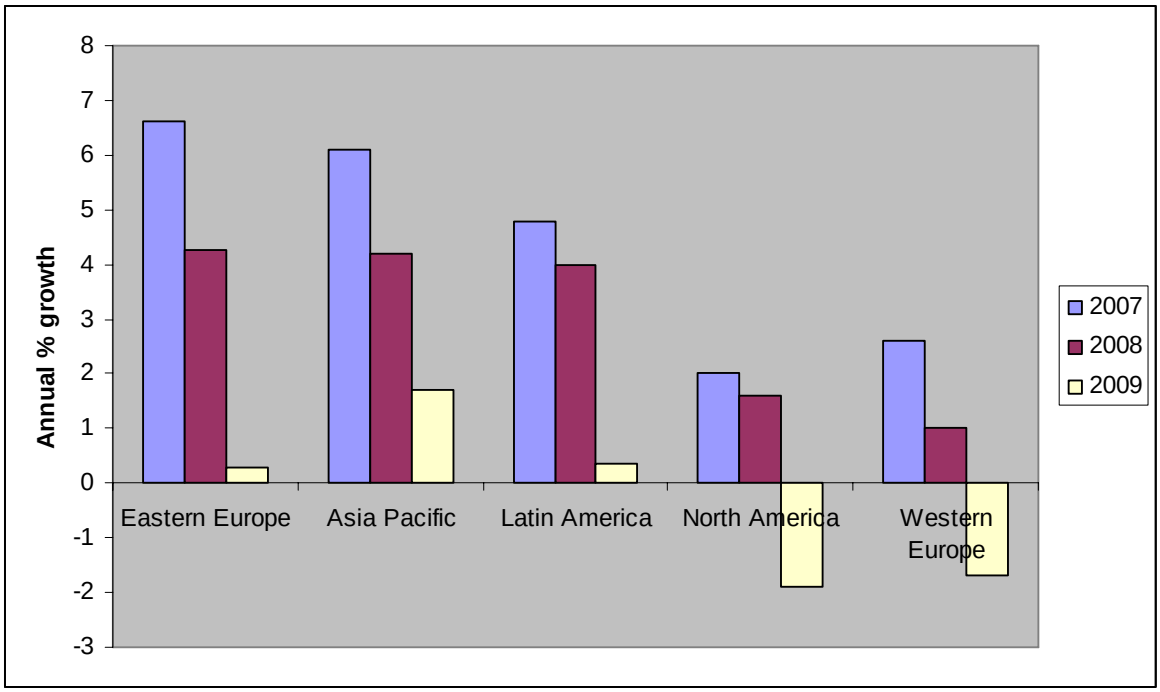
Source: Kindleberger, 1973, p. 179, figure 8.

According to the estimation of Shah and Swinney, all of the main regions of the world have slower growth rate since the financial crisis (see Figure 8.2). The richest regions, such as North America and Western Europe, are in a serious recession. The Asia Pacific keeps probably keep growing, but the growth rate in 2009 was less than half that of 2007.

Barry Eichengreen and Kevin H. O'Rourke compared today's global crisis to the Great Depression and summarised in March 2010 that global industrial production and world trade continue to recover – something for which policy deserves considerable credit. But policymakers should note that the level of industrial production is still 6 percent and world trade 8 percent below its previous peak (see Figure 8.3). This is a sharp divergence from experience in the Great Depression, when the decline in industrial production continued for three years. However, expansionary policies in a number of important economies might result in considerable excess capacity. The question now is whether final

demand for this increase in production will materialise or whether consumer spending, especially in the US, will remain weak, causing the increase in production to go into inventories, leading firms to cut back subsequently, and resulting in a double dip recession (cf. Eichengreen, O'Rourke, 2010).

Figure 8.2 Growth of the main world's regions

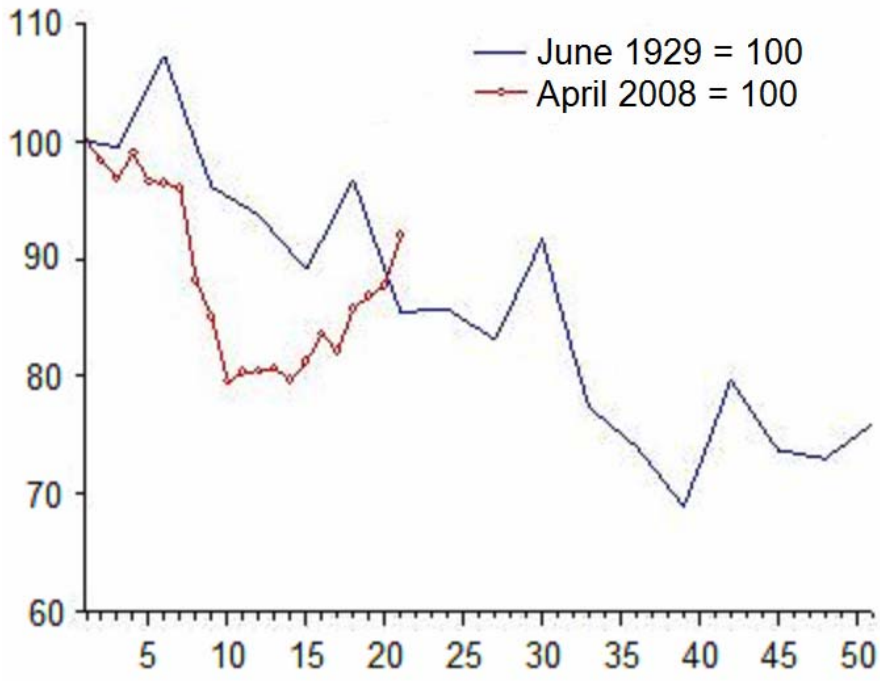


Source: Shah, Swinney, 2009, p. 28, Figure A.3.

The reduced demand and financial flows can explain the immediate cause of the downturn in trade. However, there is another factor which is potentially more damaging and ruins the world economic growth fundamentally: the return of protectionism. In early 2009, the World Bank reported that although all G-20 nations agreed to avoid protectionist measures when they met in Washington in November 2008, however, at least 17 of them have, since then, implemented measures whose effect is to restrict trade at the expense of other nations. The World Bank listed some of those measures: Russia has raised tariffs on second hand cars, Argentina imposed new licensing arrangements for imports, China banned Irish pork and India banned Chinese toys. At least 13 countries have granted subsidies to automobile industry. What the World Bank didn't mention is, the US has stopped a program that allows Mexican trucks on American roads and Mexico has

retaliated by increasing tariff. The president of the World Bank Robert Zoellick said: "Economic isolationism can lead to a negative spiral of events such as those we saw in the 1930s, which made a bad situation much, much worse." British Prime Minister Gordon Brown said also: "Protectionism is the road to ruin." Why everyone reaches for protectionism in tough times, though we know that protectionism is so ruinous? The greatest difficulty of avoiding protectionism during downturns, according to the comment of Elliot, is that trade is a global phenomenon, however politics is national. When unemployment increases, politicians understandably feel that they have to respond to the immediate needs of their voters, not yet those people in a far away country who are irrelevant to their interest (cf. Elliott, 2009, p. 22).

Figure 8.3 Volume of world trade, now vs. then



Source: Eichengreen, O'Rourke, 2010, Figure 2.

Inflation in China fell sharply from 8.7 percent in February 2008 to just 1.2 percent in December of the same year. The Chinese authorities cut interest rate to stimulate domestic demand in order to counteract the expected fall in export growth. However, any improvement in domestic demand is unlikely to prevent a marked deceleration in the Chinese economy in 2009, because exports account for around 40 percent of China's GDP,

most of this with North America and Western Europe, which will have very large negative growth rate according to the estimation of Shah, Swinney. Furthermore, a slowdown in export sectors has a negative impact on the domestic economy through an increase in unemployment. It is estimated that around 20 million migrant workers have already lost their jobs as a result of falling external demand. This, in turn, will reduce the consumer spending, and slow down Chinese economic growth (cf. Shah, Swinney, 2009, p. 30).

Theoretical Background for Protectionism

Keynes pointed out: "We know no way in which the initial impetus to increased employment can be given except by (i) an increase of exports, (ii) the substitution of home-produced for goods now imported, or (iii) an increase of investment at home" (Keynes, 1981, p. 285). Keynes had been convinced of the need for barriers to free trade. He explained: "We all need to be as free as possible of interference from economic changes elsewhere in order to make our own favourite experiments towards the ideal social republic of the future; and ... deliberate movement towards greater national self-sufficiency and economic isolation will make our task easier" (Keynes, 1982, p. 241). If the economy is in emergency, the revenue tariff is most necessarily in demand. "It should be the declared intention of the Free Trade parties acquiescing in this decision (i.e. to impose a revenue tariff) to remove the duties in the event of world prices recovering to the level of 1929 ... Free Traders may, consistently with their faith, regard a revenue tariff as our iron ration, which can be used once only in emergency. The emergency has arrived" (Keynes, 1972, pp. 237-238). The suggestion of the revenue tariff by Keynes was rooted in the recognition that free trade would damage the domestic employment.

A country's government can prevent or discourage imports from other countries by imposing certain restrictions. The most commonly used trade restrictions, as Keynes suggested, are tariffs and quotas. Tariff is a tax on imported goods. If a country's government imposes tariff, the prices of foreign goods to domestic consumers are effectively increased. US Tariffs are averagely lower than those imposed by other governments. But some US industries are always more highly protected by tariffs than others. For instance, American apparel products and farm products have historically received more protection against foreign competition through high tariffs on related imports. In addition to tariffs, a government can reduce its country's imports by enforcing a quota, i.e. a maximum limit that can be imported. Quotas have been commonly applied to

a variety of goods imported by the United States and other countries (cf. Madura, Fox, 2007, p. 52).

Falling Demand and Rising Protectionist Measures

According to the estimation of the WTO, the collapse in global demand brought on by the biggest economic downturn in decades would drive exports down by roughly 9 percent in volume terms[23] in 2009, the biggest contraction since World War II. The exports of the developed countries would fall by 10 percent. In developing countries, which are far more dependent on trade for growth, exports would shrink by some 2-3 percent in 2009. The WTO Director-General Pascal Lamy said that for the last 30 years trade growth has been often outpacing gains in output. Production for many products is outsourced around the world so there is a multiplier effect – as demand falls sharply overall, trade will fall even further. Consequently many thousands of trade related jobs are being lost. The use of protectionist measures is already on the rise. The increasing of such measures will choke off trade as an engine of recovery of the financial crisis, since restricting imports only leads your trade partner to retaliate and hit your exports (cf. WTO, 2009, p. 1).

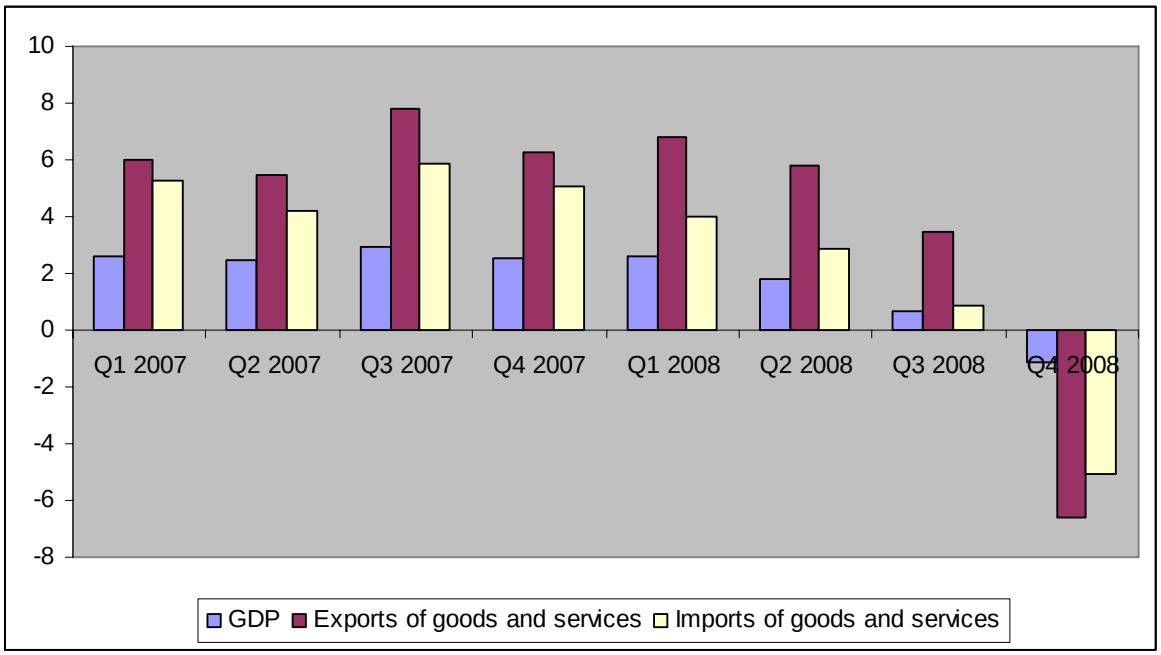
Following the dramatic worsening of the financial crisis since September in 2008, real global output growth slowed to 1.7 percent, compared to 3.5 percent in 2007, and is likely to fall by between 1 percent and 2 percent in 2009. This is the first decline in total world production since the 1930s (cf. WTO, 2009, p. 2). Exports and imports of major economies have been falling since September 2008 (see Figure 8.4 and Table 8.1). Merchandise trade in volume terms (excluding the price and exchange rate fluctuations) expanded by 2 percent in 2008, down from 6 percent in 2007 (see Table 8.1). Growth for the year was below the average 5.7 percent registered during the 1998-2008 period (cf. WTO, 2009, p. 8).

Trade prospects are heavily conditioned by the financial crisis that began in 2007 in the United States. The crisis intensified dramatically following the collapse of the Wall Street investment bank Lehman Brothers in September 2008, and the government's bailouts for financial institutions in the United States and EU. Turmoil in the financial sector and credit shortages spread to the real sector. Declining asset prices and falling demand led to dramatically reduced production and trade growth in many countries. Trade

[23] Production and trade may be measured in volume ("real") or value ("nominal") terms. Measures of volume or real production and trade flows are adjusted for price changes and do not take account of exchange rate changes, thus permitting an assessment of the actual change in flows. Value or nominal measures of changes in flows include actual changes as well as changes in underlying prices and exchange rates.

has also been affected adversely by a sharp shrinkage in credit supply to finance imports and exports. Financial institutions and economies throughout the developed and developing world have been severely affected. The variety of monetary policy measures of the governments may be reaching the limits of its effectiveness, with interest rates in the US and elsewhere approaching zero. The timing of the recovery may now depend on how effective these fiscal stimulus plans work, which amounted to more than 3 percent of world production at the beginning of 2009 (cf. WTO, 2009, p. 2-3).

Figure 8.4 Real GDP and trade growth of OECD countries, 2007-2008 (% change on a year to year basis)



Source: OECD, 2009a; OECD, 2009b.

The financial crisis has disrupted the normal functioning of the banking system and reduced needed credit supply for the firms and individuals. Falling stock markets and housing prices have also made negative shocks to the wealth in the United States and elsewhere. Households are unwilling to purchase durable goods such as automobiles and they attempt to rebuild their savings instead (cf. WTO, 2009, p. 3). As discussed in chapters above, rising savings rate will bring the economy into further recession.

According to the analysis by WTO, the following factors may explain the decline of the trade growth: first, the widespread fall-off in demand, as all regions of the world

economy are slowing at once, is reducing the trade volume; second, a shortage of trade finance is likely to contribute to the contraction of trade; third, the rising protection could contribute to trade contraction and threaten the prospects for recovery (cf. WTO, 2009, p. 4-5).

Also China, with its dynamic economy, is strongly affected by the global recession. China's exports to its top six trading partners (if we treat the EU as a single partner) represented 70 percent of the country's total exports in 2007. All of these trading partners are currently experiencing economic contraction or slowdown and are likely to have weak import demand for some time. The most major traders showed large drops in merchandise exports and imports through the first two months of 2009. China's exports were down 26 percent in February 2009 compared with February 2008 and 28 percent compared with January 2009 (cf. WTO, 2009, p. 3).

Table 8.1 GDP and merchandise trade by selected regions, 2006-2008 (Annual % change at constant prices)

	GDP			Exports			Imports		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
World	3.7	3.5	1.7	8.5	6.0	2.0	8.0	6.0	2.0
US	2.8	2.0	1.1	10.5	7.0	5.5	5.5	1.0	-4.0
EU(27)	3.0	2.8	1.0	7.5	3.5	0.0	7.0	3.5	-1.0
China	11.6	11.9	9.0	22.0	19.5	8.5	16.5	13.5	4.0
Japan	2.0	2.4	-0.7	10.0	9.5	2.5	2.0	1.5	-1.0

Source: WTO, 2009, p. 9, Table 1.

As shown in Table 8.1, US, EU and Japan, the three biggest trade partners of China had all negative imports growth rate in the year of 2008. Compared with 2007, China's exports growth rate declined 56.4 percent in 2008, and imports growth rate fell 70.4 percent.

Despite its strong overall trade performance, China's exports of some products weakened significantly towards the end of 2008. Exports of office and telecom equipment to the rest of world (i.e. the world except US), worth some 381.5 billion USD in 2008, fell 7 percent in the fourth quarter compared to the same period of 2007, after growing at an

average rate of 17 percent during the first three quarters of 2008. Exports of office and telecom equipment to the United States fell even more sharply, registering a 13 percent decline in the fourth quarter of 2008 after growth of 10 percent in the third quarter. The whole exports of Chinese manufactured goods to the United States in 2008 increased just 1 percent over the previous year (cf. WTO, 2009, p. 7).

8.2 China's Response to the Global Financial Crisis

As a response to the global financial crisis, China emphasized quick spending on infrastructure projects such as highways, railroads, and ports, rather than on the financial services industry. The American experience has been a lesson to China, so that Chinese banks had avoided many of the risky investments in financial derivatives that threatened American banks, money market funds, securities firms, and mortgage lenders. China was first, in November 2008, to announce its economic stimulus package —586 billion USD over two years — chiefly intended to realize China's goal of an 8 percent annual growth rate (cf. U.S.-China Commission, 2009, p. 39). It is usually supposed that with 8 percent annual growth rate the social and political stability of China could be ensured.

China to Slow Purchases of United States Securities and Increase Gold Reserves

In his later years, John Maynard Keynes had spoken his mind about national debts: "If you owe your bank manager a thousand pounds, you are at his mercy. If you owe him a million pounds, he is at your mercy." This means that if you owe a bank a large amount of money, it is no longer your fate at risk, but also the bank's fate (cf. Bareau, 1958, p. 26).

China has lent vast sums to the United States – roughly two-thirds of China's 1.95 trillion USD foreign reserves are in American securities. Premier Wen Jiabao and other Chinese officials have expressed growing nervousness in the phase of global financial crisis. Premier Wen voiced concern on 13th March 2009 about China's dependence on the United States: "We have lent a huge amount of money to the U.S. Of course we are concerned about the safety of our assets. To be honest, I am definitely a little worried." The main worry of Chinese officials is that American efforts to fight the current economic downturn will result in inflation and erode the value of American bonds (cf. Bradsher, 2009).

According to data released by China's central bank, the Chinese government sold foreign bonds heavily in January and February 2009 before resuming purchases in March. Chinese foreign reserves fell a record 32.6 billion USD in January and 1.4 billion USD more in February before rising 41.7 billion USD in March. The growth of China's foreign reserves in the first quarter of 2009 was at the slowest pace in nearly eight years, edging up 7.7 billion USD, compared with a record increase of 153.9 billion USD in the same quarter of 2008 (cf. Bradsher, 2009).

China's reserves have soared in recent years as the People's Bank of China bought dollars on a huge scale to prevent China's currency from appreciating as foreign currency flowed into the country from trade surpluses and heavy foreign investment. But China's trade surpluses have now dropped as exports have fallen and foreign investment has slowed as multinationals have conserved their cash (cf. Bradsher, 2009).

Since the financial crisis started, investors have piled great amounts of money into gold, boosting prices to above 1,000 USD an ounce. As China slows purchases of United States securities, it has meanwhile almost doubled its gold reserves to become the world's fifth-biggest holder of gold in April 2009. "When the largest holder of foreign exchange reserves discloses an increase in gold holdings, other countries may decide to think more carefully about underweight gold positions," said John Reade, a precious metals strategist at UBS. In G20 summit in London in April 2009, China suggested global reliance on the US dollar as a reserve currency should be reduced. It's very essential to note that the increase in China's gold reserves has come primarily from domestic production and refining. However, is it a signal that Beijing is to change its foreign reserves policy in the future? Suki Cooper, a gold analyst at Barclays Capital, said China was just "reigniting gold's relevance as a monetary asset". China's foreign exchange reserves grew from 623 billion USD at the start of 2005 to 1,906 billion USD at the end of September 2008, but in the period October 2008 to April 2009 this growth has slowed to a virtual stop, with reserves rising by just 7.7 billion USD in the first quarter of 2009. That means smaller new purchases of everything from US Treasuries to gold. China became last year the world's largest producer of gold, outranking South Africa. Paul Atherley, Beijing-based managing director of Leyshon Resources, said that even after the latest purchases, China's reserves in gold were still far below the US or other developed countries (cf. Anderlini, Blas, 2009). It is still too early to say that gold will be the major reserve of China in the future, but it is surely a signal that China is losing its confidence in US dollar.

China's Stimulus Package Plan

According to a report in November 2008 by David Barboza in New York Times, China's economy is beginning to weaken after five years of growth in excess of 10 percent. Growth in exports and investment is slowing, consumer confidence is declining, stock and property markets are severely depressed, and factory closings in southern China are resulting in mass layoffs. On 8th November 2008 China announced a huge economic stimulus package plan aimed at bolstering its weakening economy and fighting the effects of the global slowdown (cf. Barboza, 2008). The theoretical background of this stimulus package plan is the internal employment mechanism (see relation 2-43 in chapter 2).

China said it would invest ca. 586 billion USD in infrastructure projects over the next two years – roughly 7 percent of its GDP each year — to construct new railways, subways and airports and to rebuild communities destroyed by a heavy earthquake in the southwest in May 2008. The stimulus would cover 10 areas, including low-income housing, electricity, water, rural infrastructure and projects aimed at environmental protection and technological innovation – all of which could encourage consumer spending and bolster the economy. The State Council said the new spending would begin immediately, with 18 billion USD scheduled for the last quarter of 2008. This package is the largest economic stimulus effort ever undertaken by the Chinese government. Though driven by domestic concerns, the stimulus plan is likely to cheer foreign investors in China's economy by ensuring that the country remains a source of growth. Beijing is moving aggressively to cope with rapidly slowing economic growth (cf. Barboza, 2008).

China's package is not comparable to fiscal stimulus measures of Washington. In China, much of the capital for infrastructure improvements comes not from central and local governments but from state banks and state-owned companies that are encouraged to expand more rapidly. The plan also differs from the 700 billion USD financial bail-out package approved by US Congress, which has helped strengthen bank balance sheets but did not directly support specific investment projects in the United States. China's overall government expenditure remains relatively low as a percentage of economic output compared with the United States and Europe. However, Beijing maintains far more control over investment trends than Washington does, thus it has much greater flexibility to increase investment in order to counter a sharp downturn (cf. Barboza, 2008).

At the opening ceremony of the Boao Forum for Asia annual conference in April 2009, China's Premier Wen Jiabao said that China's economic stimulus package plan was

already paying off, and positive changes have taken place in the economy. The measures taken by China to deal with the crisis have proved essential for easing major problems in the economy, shoring up confidence and stabilizing expectations. The GDP of China rose 6.1 percent in the first quarter of 2009, the slowest pace in a decade. Premier Wen said the economy was "better than expected", for example improvement in investment, consumption and industrial output, as well as sufficient liquidity in the banking system. He said the stimulus policies were primarily aimed at boosting domestic demand, and at the same time made full use of external demand, both of them may drive economic growth. Further, the stimulus policy would give a big push to the shift from extensive economic growth driven by high consumption of material resources to intensive growth driven by scientific and technological advancement, improved quality of the workforce and institutional innovation (cf. China Daily, 2009).

Asian Development Bank reported that driven by the central government's fiscal stimulus, China's 2009 growth rate would be 8.2 percent (cf. Global Times, 2009), which is much higher than expected.

In the view of David Dollar, World Bank Country Director for China, China's stimulus package is good "because it will keep China's growth rate up at a pretty healthy rate and so imports will continue to go into China at a fairly good rate. That's good news for countries like Mongolia and Australia that export commodities like copper and iron ore to China – it's also welcome news for countries selling primary products, machinery and parts to China. The bad news is there won't be as much stimulus to these exporting economies as China was giving in the past." As China builds infrastructure as part of the stimulus package, domestic demand and domestic needs are enhanced (cf. Li, 2008). China's further development will depend more on domestic consumption and domestic investment instead of exports.

China's Premier Wen also said that the government was doing everything in its power to create jobs, especially for college graduates and rural migrant workers. The urban employment rose as 2.68 million jobs were created in the urban areas in the first quarter of 2009. The industrial output has gradually stabilized, and agriculture production is on the whole stable. But this doesn't mean that the impact of the global financial crisis on China is over. On the contrary, the crisis is still spreading. Premier Wen pointed out that the crisis had presented China with great challenges in economic and social development including sharp decline in exports, greater difficulties in stabilizing agriculture production and

increasing farmer's income, industry overcapacity, and slow recovery in industrial growth, and severe pressure of unemployment (cf. China Daily, 2009).

China to Tax Some Imports from Major Trade Partners

China, the world's largest steel consumer, was striking back after the United States, the European Union and other countries imposed protective tariffs on Chinese steel and commodity products in September 2009. The United States and Russia last year exported a combined 602 million USD of the designated steel products to China. Flat-rolled electrical steel products from steel makers including AK Steel Holding Corp., OAO Novolipetsk Steel and Allegheny Ludlum would attract duties of as much as 25 percent starting on 11th December 12, 2009, as a result of the investigation and judgment by China's authorities. This is the first time China has conducted an anti-subsidy and anti-dumping investigation. Disputes between China and its trading partners are growing as the worst economic crisis since the Great Depression hit the world. This crisis led almost all countries try to protect jobs by cutting imports. China protested U.S. duties of as much as 99 percent on 3.2 billion USD of Chinese steel pipe exports in November 2009, and announced the start of an anti-dumping investigation into American carmakers (cf. Bloomberg News, 2009). Protectionist policies can never be implemented from one side. Cutting imports during economic crisis would protect domestic jobs, but cause trader partners follow suit and cut its imports either. Thus the world trade volume would shrink, as shown in the Kindleberger Spiral.

8.3 Suggestion on a New World Economic and Monetary Order: Keynes's Proposals at Bretton Woods 1944

The Asian financial crisis in 1997 and 1998, the current global financial crisis and recession, and also the trade imbalance and exchange rate conflicts between the West and China caused the world to waver in its faith in the underlying basis and the efficiency of financial and trade liberalization. The fragility of the international financial system and the rationality of the investors could lead to an increase in the general insecurity and to a rapid transformation of a local shock into a global liquidity crisis (cf. Cartapanis, Herland, 2002, pp. 259-261). The imperfection of the financial market and international trade market determines that free market is not the key to solve economic problems.

It is important to keep international trade and payment accounts in balance so that the exchange is mutually beneficial and economic relations are reasonably stable. One of the International Monetary Fund's (IMF) original responsibilities, as a matter of fact, was to help nations keep their international accounts in balance. However, the current policies of the IMF, the World Bank, and the WTO not only ignore this principle but even make effort to prevent nations from reaching the balance, because in the current economic system, liberalizing trade and investment and enhancing international competitiveness are usually seen as the means to growth and the key to prosperity. The result is imbalance, instability, inequality and deprivation. In the last decades, the United States has been buying far more from others than it sold to them and paying for the difference with money borrowed from the countries with trade surplus, such as Japan and China (cf. Cavanagh, Mander, 2004 pp. 73-74). This resulted in a substantial surplus in production in other countries and increasing debt of American, which put the United States into financial collapse in 2007 at last. Indeed, lack of effective intervention in trade and financial market is seen as one of the major causes of the current financial crisis.

In 1997 William Greider pointed out that regarding the poverty reduction and income distribution, scores of nations around the world were concretely in worse shape than they had been twenty years ago. The overall gap in incomes and wealth, or rather the poverty, has grown tremendously, in parallel to the growth of GDP (cf. Greider, 1997, p. 281). By studying empirical evidence, the Harvard economist Dani Rodrik came to the conclusion that the rising wage inequality resulted mainly from technological change, which was pushed forward by the pressure of enhancing competitiveness in international trade market (cf. Rodrik, 1997, pp. 15-16). On the other side, the price advantage in export goods in the trade surplus countries (like China) is always combined with the suppression of the increase of wages, so that most of the Chinese workers can not afford to buy what they produce. Very ironically, China is lending the American money to buy the products 'made in China' that they would otherwise not afford without the borrowed money.

"The outstanding faults of the economic society in which we live are its failure to provide for full employment and its arbitrary and inequitable distribution of wealth and incomes" (Keynes, 2007, p. 341). The free market, if let alone, results in rising inequality of wealth distribution and thus inadequate effective demand, which causes unemployment and depression. In an uncertain world with uncertain future, there is no tendency towards a full employment equilibrium (cf. Bortis, 1997, p. 282), which is mainly determined by effective demand. Therefore, the priority of policy making in economic area for each

country is not to grow through exports but to create domestic effective demand. It is not the growth rate, but the aggregate demand, i.e. the effective demand, which reflects the living standards of the people and thus the quality of development.

In order to correct trade imbalance on the global level, control international financial stability, promote full employment and economic development, Keynes suggested a new international monetary system with a single global currency, *bancor*. The main idea of Keynes was "the substitution of an expansionist, in place of a contractionist, pressure on world trade" (Keynes, 1980, p. 176).

By explaining the single global currency, Keynes wrote: "We need an instrument of international currency having general acceptability between nations ... We need an orderly and agreed upon method of determining the relative exchange values of national currency units ... We need a quantum of international currency, which is … governed by the actual current requirements of world commerce, and is also capable of deliberate expansion and contraction to offset deflationary and inflationary tendencies in effective demand world. We need a system possessed of an internal stabilising mechanism, by which pressure is exercised on any country whose balance of payments with the rest of the world is departing from equilibrium in either position, so as to prevent movements which must create for its neighbours an equal but opposite want of balance ... We need a method by which the surplus credit balances arising from international trade, which the recipient does not wish to employ, can be set to work ... without detriment to the liquidity of these balances" (Keynes, 1980, p. 168).

The created single global currency would be circulating only among countries, but not inside them, and conveying the payment of their commercial and financial transactions. Its task would be to be given to an international institution (the Clearing Union) which would play have played the role of World Bank and would thus have been an intermediary between Central Banks of member countries. Member countries would use the *bancor* as the sole means of international payments and its value is corresponding to its gold definition (cf. Cencini, 1995, p.137).

"The proposal is to establish a Currency Union, here designated an *International Clearing Union*, based on international bank-money, called (let us say) *bancor*, fixed (but not unalterably) in terms of gold and accepted as the equivalent of gold by the British Commenwealth and the United States and all the other members of the Union for the purpose of settling international balances. The Central Banks of all member States (and also of non-members) would keep accounts with the International Clearing Union through

which they would be entitled to settle their exchange balances with one another at their par value as defined in terms of *bancor*. Countries having a favourable balance of payments with the rest of the world as a whole would find themselves in possession of a credit account with the Clearing Union, and those have an unfavourable balance would have a debit account. Measures would be necessary to prevent the piling up of credit and debit balances without limit" (Keynes, 1980, pp. 170-171). Each member country should be responsible to keep its self-equilibrium so that the rising imbalance on the global level would be prevented and the system as a whole would be secured.

About the circulation and function of the *bancor*, Keynes suggested: "The principal object can be explained in a single sentence: to provide that money earned by selling goods to one country can be spent on purchasing the products of any other country. In jargon, a system of multilateral clearing. In English, a universal currency valid for trade transactions in all the world" (Keynes, 1980, p. 270).

The *bancor* is supposed to be used to provide the effective payment of commercial transactions among the different countries, who are members of the multilateral clearing system. Issued by the World Bank, the *bancor* flows instantaneously back to it, in a movement allowing for the transfer of its real content from one country to the other. To convey real goods, the *bancor* is changed into the national currency of the country which obtains it from the International Clearing Union. Because of the circular operation of the *bancor*, the national currency is also immediately changed into the international one, so that the national currency is simultaneously offered and demanded in terms of *bancor*. Since every international transaction submits national currencies to a couple of opposing and equivalent forces, the system has great advantage of assuring exchange rate stability. The stability of the exchange rates depends on two equilibria: the internal one which is related to the general level of prices, and the external one which is related to the balance of payments. In a system with *bancor*, exchange rates are essentially stable since they are no longer submitted to speculative market forces, however, they can still periodically be modified in order to avoid permanent trade balance deficits of member countries. During such re-adjustment, the stability of the internal equilibrium is guaranteed by the fundamental neutrality of the *bancor* (cf. Cencini, 1995, pp. 138-139).

The International Clearing Union would adopt rules to impose sanction on debtor countries as well as countries which ran persistent surpluses and thus accumulated *bancor* reserves. Keynes called for a charge on excessive overdrafts and on excessive reserve balances of one or two percentage points in order to encourage balanced trade (cf. Wray,

1999, p. 192). The Governing Board of the International Clearing Union may require a member country with persistent trade deficit measures against its debit balance, including devaluation of its national currency in terms of *bancor*, the control of outward capital transactions, expansion of gold reserves, and domestic policy "which may appear to be appropriate to restore the equilibrium of its international balance" (Keynes, 1980, p. 462). A member country with persistent trade surplus may be asked by the Governing Board to take measures to restore the equilibrium of its international balances, including expansion of domestic credit and domestic demand, appreciation of its national currency in terms of *bancor*, reduction of tariffs and other discouragements against imports and encouragement of international development loans (cf. Keynes, 1980, p. 463). By taxing the surplus, the International Clearing Union stabilizes the global financial market, encourages domestic demand and promotes global trade balance.

"The idea underlying such a Union is simple, namely, to generalise the essential principle of banking as it is exhibited within any closed system. This principle is the necessary equality of credits and debits. If no credits can be removed outside the clearing system, but only transferred within it, the Union can never be in any difficulty as regards the honoring of checks drawn upon it. It can make what advances it wishes to any of its members with the assurance that the proceeds can only be transferred to the clearing account of another member. Its sole task is to see to it that its members keep the rules and that the advances made to each of them are prudent and advisable for the Union as a whole" (Keynes, 1980, p. 171).

In his speech *Reform the International Monetary System* in March 2009, the governor of the People's Bank of China, Zhou Xiaochuan, called the *bancor* approach of Keynes "farsighted". As a response to the current financial crisis started in 2007, he said: "The crisis again calls for creative reform of the existing international monetary system towards an international reserve currency with a stable value, rule-based issuance and manageable supply, so as to achieve the objective of safeguarding global economic and financial stability. … Issuing countries of reserve currencies are constantly confronted with the dilemma between achieving their domestic monetary policy goals and meeting other countries' demand for reserve currencies. … the monetary authorities … may either fail to adequately meet the demand of a growing global economy for liquidity as they try to ease inflation pressures at home, or create excess liquidity in the global markets by overly stimulating domestic demand" (Zhou, 2009). This is the so-called Triffin Dilemma, which implies that the dollar as international currency leads to a tension between national

monetary policy and global monetary policy. While exploring better solutions for the challenges we face, the world might need to consider Keynes' *bancor* approach.

9. Concluding Remarks

The author would say that the essence of this thesis could be well summarised by the saying of Keynes: “The outstanding faults of the economic society in which we live are its failure to provide for full employment and its arbitrary and inequitable distribution of wealth and incomes” (Keynes, 2007, p. 341).

9.1 General Summary and Policy Conclusions

The rapid economic growth has transformed China from a negligible player in world trade to the third largest economy in the world after the U.S. and Japan in 2008 with GDP of 7.8 trillion USD in 2008, when measured by purchasing power parity (cf. EconomyWatch, 2009). China has aroused worldwide interest. This thesis reviewed briefly China’s achievements in growth, and concentrated on its major challenges that, if not resolved, could impede the further economic development. It has analyzed the drivers for China’s economic growth, the internal and external conflicts arising with the progress of the growth, the causes and solutions of current challenges, the interaction between the West and China in respect to trade, employment, and exchange rate policy, impact of the global financial crisis and recession on trade and China’s responses to it. By combining theories and practice, the thesis has explored in which direction the future development should proceed. Such direction could be also implemented in other countries with similar circumstances like China.

At the beginning of the thesis, major economic theories about growth and development have been reviewed and compared in order to find out the most appropriate theory which should serve as background for policy making for China’s further development. According to the neoclassical economics, prices, outputs, and income distributions are all determined in markets through supply and demand. Individual preferences shape both the nature of the economy and the characteristics of the society. Market supply and demand are aggregated across profit maximizing firms and utility maximizing individuals and their interactions determine equilibrium output and price. The equilibriums are the solutions of any economic problems, in other words, market economy is a self-regulating system, because the market forces always lead to efficient allocation of resources and full employment. Excessive unemployment is only temporary and will be corrected by market mechanisms in the long run (cf. Cadwallader, 1992, p. 7). However,

the classical-Keynesian economists believe that the economy is not able to self-correct and the market need necessarily active government intervention to ensure economic growth and stability. Market, when left alone, leads to either insufficient aggregate demand which causes unemployment or excessive aggregate demand which results in inflation. Lack of sufficient aggregate demand, involuntary unemployment exists and will not be corrected by the system automatically. By adjusting levels of government expenditure and taxation, the level of aggregate demand would be controlled by the government, so that the development would be promoted (cf. Downes, Goodman, 2003, p. 531).

With essential achievements in economic growth, China increased not only its own GDP and living standards, but also made significant contribution to the world GDP growth and poverty reduction. Meanwhile, the painful costs of the booming growth are also rising. Under the export-led growth mode, the income distribution become more unequal because the wage level in export sectors and in the costal areas where the most export-oriented companies are located is much higher than that in other areas and sectors; in order to keep the export advantages, the government implemented specific policies to encourage the development of export oriented sectors, most of them located in costal areas, and manipulated the value of Chinese currency, argued by most Western economists. Due to the supposedly manipulated value of RMB by China's government and under the pressure of increasing unemployment through trade deficits, the industrialized countries have raised measures of protectionism against products 'made in China', especially since the global financial crisis and recession. However, the contribution of the increase of the domestic household consumption to China's GDP growth is still too small to compensate the decline of exports. One of the most crucial effects of China's high surplus in the balance of trade must be the record high foreign exchange reserves in US Dollar. That is, China deposited trade revenue in a great measure in the United States. These reserves should have been used as financial means for domestic investment in social security system and public services which could promote the domestic employment in underdeveloped areas, increase aggregate consumption, improve the income distribution so that the economy is put in motion a virtuous circle of effective demand: the more effective demand the public investment creates, the more private investment will be made; and with more private investment, more effective demand will be created, which is key for sustainable economic development. Currently, due to the low coverage of the social security, the Chinese people would rather save than to spend, leading to the fact that the savings rate is high and consumption rate is very low.

Considering the above mentioned experiences, we come to the conclusion that the neoclassical theory is no more valid for China's further development. Free market economy is not the solution, since the free trade based on 'comparative advantages' already hurt both the West and China hard. China's government must reduce the dependence on exports and commit itself to the domestic development, especially in the underdeveloped areas and for the low income population. Government expenditure aimed at increasing domestic demands should benefit rural population i.e. low income population firstly to reduce the income inequality. Public investment must be made in infrastructure, agriculture, education, employment creation and building an efficient social security system. These are determining factors for the aggregate demands. This means that policy making for China's further development should be based on the classical-Keynesian theory.

In the classical-Keynesian view, interest rate and exchange rate are both determined politically, and the price is determined in the production process. The reaction of the market is just a quantity adjustment. The government should set both the internal price of money i.e. the interest rate and the external price of money i.e. the foreign exchange rate, in other words, one country's price of money in terms of another's. Interest rate should be taken out of the play of the market forces and established by the central bank in order to achieve the objectives of high levels of employment. In addition, if the external price of money (the foreign exchange rate) remains within the play of market forces, the internal price of money (the domestic interest) would be affected and dragged into the market, be subjected to its influences. The creation of fixed exchange rates among governments worldwide was designed to remove the external price of money from market forces, in order to promote international trade and keep domestic interest rates from being influenced by external market forces (cf. Guttmann, 1997, p. 201). The suggestion of a single global currency has been discussed in chapter 8.3.

Government expenditure could be a necessary means to sustain aggregate demands and to create jobs. The economy would be thereby put on the trend toward full employment. With the tax revenue based on earned income, the volume of resources collected by the government varies as income changes. Revenue falls during a recession, while government expenditure increases to stabilize the economy (cf. Steele, 2001, pp. 186-187).

By raising the level of government expenditure, the level of aggregate demand can be raised (by a multiplied amount) with favourable consequences for economic activity and

employment. Especially during recession, the government should aim to raise spending to stimulate the economy (cf. Griffiths, Wall, 2007, p. 479). Although such an expansion might result in a larger budget deficit because government expenditure exceeds tax revenue, it will be rebalanced by the increasing tax revenue when the economy is extracted from the recession and enters a booming phase again.

9.2 Outlook on a Possible Future Development of China

For the future development of China's economy, we would expect to see some movement towards a national economy with strong emphasis on domestic-oriented development over the next decades. The national highway and railway infrastructure will start knitting the economy together. Efforts to integrate the three major costal open economic zones of China, namely Greater Pearl River Delta, the Yangtze River Delta and the Bohai Rim, will continue. By such integration, linkages between provinces will be created and barriers between provinces will be reduced to create efficient national markets in China. But the municipal and provincial boundaries to trade and investment are likely to come down slowly. A range of second-tier cities will start to develop and become interesting business cities and markets (cf. Hoffmann, Enright, 2007, pp. 45-46). This means, the income distribution will be improved. The economic development will be driven by the domestic aggregate demand, i.e. the effective demand.

Unlike the exports-led growth path over the last 30 years, the national self-sufficiency in China's economy will be raising substantially. When China's economy is not dependent upon exports, the vast holdings of foreign reserves become unnecessary. These might be used to buy strategic stakes overseas in energy and minerals to secure future access to these resources. The rules on foreign investment will be tightened up to prevent over-investment in property and other such investments. Savings will be reduced to allow the weak consumption to catch up with the strong domestic trade and investment (cf. Iley, Lewis, 2007, p. 227).

In his speech at Summer Davos in Dalian, China on 10th September 2009, China's Premier Wen Jiabao has repeatedly emphasized that domestic demand will play a central role in driving China's economy forward. China's stimulus package focuses on expanding domestic demand and is aimed at driving economic growth through both consumption and investment. Consumption will be stimulated by increasing subsidies for farmers, offering subsidies for the program of bringing home appliances and agricultural machinery, raising

the minimum purchasing price of grains, introducing performance-based salaries for primary and middle school teachers, and increasing the basic cost of living allowances for urban and rural residents so that the people will be able to spend more. Forceful measures will be taken to adjust the structures of domestic and external demands and strengthen the role of domestic demand in fuelling economic growth. The government will make great efforts to increase the share of consumption in GDP, raise urban and rural income, improve consumer expectations, and enhance people's willingness and capacity to spend. The development of the service sector will be speeded up and it will be a priority task in boosting domestic demand, and an important factor in promoting balanced growth of supply and demand (cf. Wen, 2009). All these new policies will give a strong push to domestic demand and essentially reduce China's dependence on exports. If one may interpret the difference, the past growth path of China might reflect to some extent Ricardo's idea of "comparative advantages" (see chapter 5.3), however, its future growth path will rather be in accordance with Keynes's doctrine of "effective demand" (see chapter 2 and chapter 6).

However, a sharp increase of the value of the renminbi is not in the short term expectation. Such an exchange rate alteration would result in large capital losses on China's large holdings of dollar assets, and would present those who speculated on a yuan appreciation with large gains. For purpose of stability, China is politically, culturally and economically opposed to rewarding those who speculated on the changes of Chinese policy (cf. Iley, Lewis, 2007, p. 227). Fan Gang, an adviser of China's central bank and director of the National Economic Research Institute, said that a revaluation would not reduce China's trade surplus with the United States and would only encourage more speculative capital inflows betting on further exchange rate gains. A rapid revaluation of the reminbi would price China's exporters out of the market and hit Chinese farmers and immigrant workers hard, as many low-wage jobs would disappear. He suggested that the Chinese currency would rise by an average of 5 percent a year (cf. Fan, 2006). China would reject any policy change that would simultaneously impoverish low-income population and reward wealthy speculators, because it is very harmful to social stability. But the gradual increase of China's currency value of 5 percent per year seems feasible. In 6 years, the total increase would be 30 percent, which would substantially contribute to correct the global imbalances.

Axel Merk, chief investment officer and manager of the Merk Hard and Asian Currency Funds, pointed out that China is by no means responsible for the crisis the world

faces, however, it has played an important role in allowing global imbalances to be built. China has to change and must take the responsibility to shape not only its own future, but also that of the global economy. Consumer spending in China has continued to increase year over year, but there is a seriously accelerating slowdown under way. Lifting the spirit of Chinese consumers might be far more effective than a spending program on infrastructure. The spirit of Chinese consumers is not encouraged by providing access to credit, but by giving the country a vision. The industry with low technology content such as the toy production will be a history for China, while the high tech industry of China is offering increasingly better product quality and performance. Toy production will be left to other Asian countries; China has to focus on technology and innovation since promoting the development of high tech industry contributes substantially more to the growth than subsidizing industries that have little chance to survive, such as toy production (cf. Merk, 2008). China's infrastructure stimulus plan will enhance the employment and thus increase the consumption. Furthermore, development of the high tech industry, poverty reduction, improvement of income distribution, development of social security system will not only enhance the purchasing power of the population, but also supply the population a positive vision for the future. Therefore, their increasing consumption will contribute essentially to the further growth.

In the conference of the Asia-Pacific Economic Cooperation (APEC) in 2008, China's President Hu Jintao said China will continue to follow the Scientific Outlook on Development by putting people first and making development comprehensive, balanced and sustainable. China will follow a new path of industrialization with Chinese characteristics and transform the mode of economic growth from an economy relying heavily on higher consumption of resources to one achieving development by making scientific and technological progress, improving the quality of the workforce and developing innovative management, he added (cf. China Daily, 2008). The analysis of Axel Merk, mentioned above, was consistent with China's future development outlined by President Hu Jintao.

In a TV interview on 19th October, 2009, Stephen S. Roach, Chairman of the Morgan Stanley Asia, said that literally 80 percent of China's GDP is concentrated in two sectors, exports and export-led fixed investment, while the internal private consumption share of the Chinese GDP was 35 percent in 2008 and fell below that by the middle of 2009. It's an economy that is more about supply than about internal demand, an economy that directs an increasing portion of its production to external markets rather than one that is supported by

internal markets. In the next few years, change will be made and China's economy will become more balanced and moves away from the export model to one that's supported by internal private consumption. The state investment in social security, private pensions, medical care, and unemployment insurance will transform the savings culture of the society away from the excesses of fear-driven precautionary saving toward a more normal savings rate. China's pro-consumption model will reduce the nation's trade and current account surplus. The rebalancing of the economy will also make an important contribution to lowering the oil and natural resource intensity of the Chinese GDP and result in at last a cleaner and greener GDP. This is because consumption-led growth, especially if it's complemented by the development of the service sector, consumes less materials and energy inputs than a pure export-led industrial production. Further, there is a very important benefit from the development of the service sectors, namely the employment. While manufacturing, industrial production and growth are very capital intensive, service are increasingly labour intensive. Thus the development of the service sector would help China to absorb its surplus labour. The service sector in China is only about 40 percent of Chinese GDP, smaller than in any major economy in the world today. The potential is great. In spite of all challenges, Roach believed that China can continue to grow on a rapid rate (cf. Roach, 2009b). The author would say that the success of China's future growth will largely depend on whether its economic transformation will be successful.

Table 9.1 China: macroeconomic indicators

	2007	2008	2009	2010	2011
Real GDP growth	13.0	9.0	8.3	10.2	9.3
Inflation	7.4	7.2	-3.1	-0.2	-0.5
Consumer price index	4.8	5.9	-1.1	0.1	1.0
Fiscal balance (percent of GDP)	2.0	1.1	-1.8	-0.9	-0.3
Current account balance (percent of GDP)	11.0	9.8	6.4	5.4	5.9

Note: The figures given for fiscal balance are consolidated budgetary and extra-budgetary accounts on a national accounts basis.

Source: OECD, 2009c.

Forecasted by OECD, as shown in Table 9.1, the annual GDP growth in 2010 will be 10 percent, but ease slightly in 2011 as the impact of the fiscal stimulus ends. The strong increase in domestic demand created by the fiscal stimulus will draw more imports, while exports remain weak and may not recover to pre-crisis rates. As a result, the current account surplus will fall sharply to 5.4 percent of GDP by 2010 before rising somewhat in 2011, as domestic demand growth eases. Inflationary pressures are likely to fall off (cf. OECD, 2009c).

In November 2009 the World Bank raised forecast for China's economy and estimated that Chinese export growth is likely to resume, helped by strong fundamental competitiveness and the recent depreciation of the nominal effective exchange rate. The huge stimulus spending package of 585 billion USD, lower interest rates and vastly increased lending by state-owned banks helped offset the fallout from the collapse in demand in Europe and the United States, which has hit export industries in China hard. But the challenge, according to the World Bank, would be to continue weaning China off its reliance on exports and stimulate domestic demand. Meanwhile, other Asian emerging economies like Indonesia, Thailand and Cambodia which are exporting consumer durables, electronic components and raw materials to China, are benefiting from China's rebound (cf. Wassener, 2009).

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